

EPA ID: GA0001020874 Site Name: ANTHOINE MACHINE WORKS

State ID:

Alias Site Names:

City: FORT VALLEY

County or Parish: PEACH

State: GA

Refer to Report Dated: 01/05/98

Report Type: SITE INSPECTION 001

Report Developed by:

**DECISION:**

- ☒ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:
- ☒ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)
- ☐ 1b. Site may qualify for action, but is deferred to:
- ☐ 2. Further Assessment Needed Under CERCLA:
- 2a. Priority: ☐ Higher ☐ Lower
- 2b. Other: (recommended action)

**DISCUSSION/RATIONALE:**

There were no detected VOCs in the soils above the water table.

Site Decision Made by: ALAN W. YARBROUGH

Signature:

Date: 08/27/98

*Revised  
7/8/98*

Site Inspection Narrative Report  
Anthoine Machine Works  
Peach County, Georgia  
GA0001020874

Prepared by:



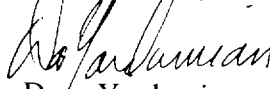
Robert Pierce  
Advanced Geologist

Georgia Environmental Protection Division

Hazardous Waste Management Branch

January 5, 1998

Reviewed by



Daye Yardumian  
Hazardous Waste Management Branch  
Georgia Environmental Protection Division

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Date: January 5, 1998

Prepared by: Robert Pierce, Advanced Geologist  
Georgia Environmental Protection Division  
Hazardous Waste Management Branch  
Atlanta, Georgia

Site: Anthoine Machine Works  
Fort Valley, Peach County, Georgia

EPA ID No.: GA0001020874

## 1.0 INTRODUCTION

Under Authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Environmental Protection Division (EPD), Hazardous Waste Management Branch conducted a Site Investigation (SI) at the Anthoine Machine Works in Peach County, Georgia. The purpose of this investigation was to collect information concerning conditions at the Anthoine Machine Works site sufficient to assess whether this site is a source of the tetrachloroethylene found in 2 of the City of Fort Valley's 5 municipal wells and to determine the need for additional investigation under CERCLA or other authority, and, if appropriate support site evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List (NPL). This investigation included reviewing previous formation, sampling environmental media to test Preliminary Assessment (PA) hypotheses and to evaluate and document HRS factors, collecting additional non-sampling information, and interviewing nearby residents.

## 2.0 SITE DESCRIPTION

### 2.1 Location

Anthoine Machine Works is located at 311 Railroad Street., Fort Valley, Georgia 31030. The geographic coordinates are 32°33'04.8" North Latitude and 83°53'09.3" West Longitude as can be seen on the United States Geologic Survey Fort Valley Quadrangle 7.5 minute Topographic Map (Figure 1).

Peach County is characterized by a mild climate. Summers are warm and humid with temperatures reaching 90-100°F. The hottest weather usually occurs in several short periods rather than in one long continuous period. The winters are generally mild but several short periods of moderately cold weather can be expected each year. Temperatures of 32°F or below occur on an average of about 35 days each winter. The yearly average rainfall ranges from about 45 to 48 inches. March and July are normally the wettest months. (Reference 1).

## 2.2 Site Description

The site is located on approximately 1.34 acres of land and is operated by Mr. Steven W. Lindsey. The site is located in downtown Fort Valley and is bounded by the following properties:

North - Central of Georgia Railroad  
South - Woolfolk Chemical Works  
East - Open Field  
West - Industrial Buildings

The site is active and machine operations are conducted there. The site currently has 5 buildings with the largest being the machine shop building, with the other 4 used for storage or work areas (Reference 10).

## 2.3 Operational History & Waste Characteristics

Anthoine Machine Works has been at the site since 1875 and from time to time a saw mill and planing mill were located at the site (Reference 12). Present waste operations were observed to be limited to parts washing at a small cleaning station with waste solvents removed by a hazardous waste transported company (Reference 11). Anthoine Machine Works is a Conditionally Exempt Small Quantity Generator (Reference 14).

## 3.0 WASTE/SOURCE SAMPLING

### 3.1 Sample Locations

Table 1 presents sample numbers, locations, and objectives for all samples collected during the SI. Four (4) soil samples were taken during this investigation. Soil samples were taken with a GeoProbe Model 5400 mounted on a pickup truck utilizing GeoProbe coring tools.

### 3.2 Analytical Results

Analytical results are presented in Table 1, along with sample number, description of the sample point and reason for sample collection. Figure 2 shows sample locations.

Table 1: Samples taken during SI with analytical results.

Sample Number	Description	Purpose	Results	
			Contaminant	Concentration
1	Undisturbed soil sample at west boundary of facility (12-14' BLS)	Establish background and follow VOC contamination from surface to GW	VOCs	ND
2	Undisturbed soil sample at east boundary of facility (10-12' BLS)	Follow VOC contamination from surface to GW	VOCs	ND
3	Undisturbed soil sample near SE boundary of facility (12-16' BLS)	Follow VOC contamination from surface to GW	VOCs	ND
4	Undisturbed soil sample near SW boundary of facility (5-6' BLS)	Follow VOC contamination from surface to GW	VOCs	ND

#### 4.0 GROUND WATER PATHWAY

##### 4.1 Hydrogeology

The City of Fort Valley is located in the Fort Valley Plateau District of the Coastal Plain physiographic province. The dominant feature of the Fort Valley Plateau District is a broad, flat topped topography with fewer streams and less local relief than adjacent districts. The City of Fort Valley is located in an outcrop area of the Lower Paleocene Clayton formation which consists of sandy brick-red clay and fine to coarse grained sand. The Clayton formation is underlain by the Providence Sand, Providence-Ripley-Cusetta, Blufftown-Eutaw, and Tuscaloosa formations. The shallow most aquifer is the Clayton (or perched) aquifer which is composed 10-35 feet of silty fine sand. The Clayton aquifer is overlain by 10-15 feet of soil and a sandy clay unit, and underlain by an aerially extensive kaolin layer which ranges in thickness from 2-20 feet. Ground water in the Clayton aquifer is under water table conditions, and depth to ground water in this aquifer is approximately 25-30 feet below land surface. The deepest aquifer in Fort Valley is the Tuscaloosa aquifer which occurs at a depth of about 250 feet below land surface. This aquifer is overlain by the Ripley/Blufftown - Eutaw

semiconfining unit and ground water in the Tuscaloosa aquifer occurs under confined conditions. The Tuscaloosa aquifer is the primary source of ground water to the high capacity wells in the area including Fort Valley City wells 1, 2 and 5 (References 2 and 3).

#### 4.2 Targets

Table 2 presents the number of people on public and private water sources within 1/2, 2, 3, and 4 miles of the site (Reference 4 and Figure 3). Most people within four (4) miles of the site obtain their drinking from public water systems using wells. The remainder use private wells. There are no public or private public water systems using surface water within 15 miles of the site. The City of Fort Valley is the largest supplier of drinking water in the area. The City system has 5 wells which pump to two treatment plants. Wells 1, 2, and 5 pump to the McLean plant which is downtown and wells 3 & 4 pump to the Jones Plant which is in the SW part of the City near Fort Valley State College. These plants are tied together by a common distribution system so there is only one City of Fort Valley Public water system (Reference 15).

Table 2 Drinking Water Population

Ground Water Usage	Distance from Site (Miles)						
	0-0.25	0.25-0.50	0.5-1.0	1.0-2.0	2.0-3.0	3.0-4.0	Total
Total Population	68	114	573	2309	3308	2977	9349
Population on Private Wells	3	09	33	225	393	436	1099
Population on Public Wells	65	105	540	2084	2915	2541	8250

#### 4.3 Sample Locations

There are three monitoring wells on the site that were installed and sampled by a consulting firm as part of the adjacent Woolfolk Chemical Works Superfund investigation. The three monitoring wells (MW-4C, MW-21, and MW-4T) are at depths of about 20-30, 110-120, and 260-270 feet, respectively below land surface (Figure 4) (Reference 3). MW-4C showed no Perc, MW-21 showed Perc at 6.5 ug/l, and MW-4T showed Perc in the 5.2-9.9 ug/l range. These monitoring wells show a sandy clay from land surface to about 17 feet BLS, a kaolin clay layer from about 30-43 feet BLS, and a sandy clay from 55-70 feet BLS (Figure 4).

#### 4.4 Ground Water Conclusions

The small amount of Perc in wells 4T and 21 cannot be attributed to the site because:

- The intervening clay layers between the MW-4C and the MW-21 well screens would serve as a barrier to vertical Perc migration.
- Well (4C) did not show Perc contamination.
- The soil sampling done as part of this SI showed no Perc contamination.
- There are multiple potential sources of Perc in the vicinity of the site.

## 5.0 SURFACE WATER PATHWAY

### 5.1 Hydrologic Setting

The site is located on a topographic plateau (Figure 1). The machine shop property is located at the intersection of Railroad and Preston Streets. With the exception of the buildings, the site is soil inside the fenced enclosure. Any overland drainage from the site flows southeast toward the Probable Point of Entry (PPE) which is an unnamed tributary of Big Indian Creek (Figure 5). The PPE is about 2 miles from the site. From the PPE, the unnamed tributary flows south about 4 miles where it joins Big Indian Creek. Big Indian Creek is a moderate size stream with an average flow rate of 86 cubic feet per second and an average low flow rate of 21 cubic feet per second (Reference 5). There has been no Flood Insurance Administration Map produced for the City of Fort Valley. However, a Flood Hazard Rate Map has been produced for the area and this map shows the site to be outside the 500-year floodplain (Figure 6 & Reference 6).

### 5.2 Surface Water Targets

There are no drinking water intakes within 15 downstream miles (Figure 5). It is likely some recreational fishing (brim and bass) occurs in the area where Bay Creek merges into Big Indian Creek just west of the City of Perry. There is limited access to this area by the public; therefore, only the people who own properties along the creeks have the opportunity to catch fish (Reference 7). The distance between the machine shop and the fishery is approximately 13 miles. There are no major wetlands located between this site and the 15 miles downstream delineation boundary (Figure 5).

Pursuant to the Georgia Endangered Wildlife Act of 1973 and the Federal Endangered Species Act of 1973, no wildlife is designated as a state and federally protected species (classified as endangered wildlife) whose range of habitats includes Peach and Houston Counties (Reference 8).

Pursuant to the Georgia Wildlife Preservation Act of 1973, Chamaecyparis thyoides (Linnaeus) Atlantic White Cedar, Nestronia umbellula (Rafinesque) Indian Olive, Sarracenia rubra (Walter) Sweet Pitcherplant and Trillium reliquum (Freeman) Relict Toadshade are designated as state protected species (classified threatened/endangered plants) whose range of habitat include Peach, Houston, Taylor, Talbot, Marion, Crawford, Muscogee, Macon and Schley Counties (Reference 9).

The above protected flora and fauna were not designated as terrestrial sensitive environments for the soil or air pathways due to the fact that none of the protected species were observed on-site or off-site during the reconnaissance.

### 5.3 Surface Water Sample Locations

No surface water samples were taken to identify a release to Big Indian Creek. Probable point of entry (PPE) was chosen for the unnamed tributary to Big Indian Creek based on the surface runoff and topography of the area.

surface runoff and topography of the area.

#### 5.4 Surface Water Conclusions

A potential release of contaminants to surface water is not suspected because of the distance to the PPE. No drinking water intakes have been identified but a recreational fishery has been identified. The surface water pathway is not of concern.

### 6.0 **SOIL EXPOSURE AND AIR PATHWAY**

#### 6.1 Physical Conditions

The site is active. The property is fenced with three (3) locking gates (Reference 10). The gate on Preston Ave was observed to be kept locked at all times. The other two (2) gates on Railroad St. are open during regular business hours but are kept locked at night.

#### 6.2 Soil and Air Targets

No more than five (5) workers were observed at the site (Reference 10). The site is in an industrial area and is bounded to by the following:

North - Central of Georgia Railroad  
South - Woolfolk Chemical Works  
East - Open Field  
West - Industrial Buildings

The total population within four (4) miles of the site is 9349. (Reference 4).

#### 6.3 Soil Sample Locations

Table 1 shows the sample locations description of the samples, and the analytical results of samples taken during the site reconnaissance (Reference 10). A total of four (4) soil samples were taken at the site and analyzed for VOCs. All samples were taken within the fenced enclosure. The samples were taken at the following depths using direct push technology.

Sample No.	Depth in feet BLS	PID Hit (Y/N)
1	12-14	N
2	10-12	N
3	12-16	N
4	5-6	N

The purpose of these samples was to see if there was a connection between present or past activities at the site with Perc ground water contamination found in an on-site monitoring well (Well 4-C) with a screened interval of about 260-270 feet BLS (Reference 3). This well is completed in the Tuscaloosa aquifer which is also the aquifer utilized by City Wells 1 and 2.

#### 6.4 Soil Analytical Results

The soil analytical results shown in Table 1 show no detectable contamination with Perc or any other VOC.

#### 6.5 Conclusions

Since there were no detectable VOCs in the soils at different depth above the water table, it can be concluded that this site did not contribute VOC contamination to the ground water in the Tuscaloosa aquifer that supplies the City of Fort Valley Municipal Wells 1 and 2. Since no VOCs were detected by continuous PID monitoring (Reference 10) during the direct push sampling, it was concluded that air emissions were not a concern.

### 7.0 **SUMMARY AND CONCLUSIONS**

The purpose of this SI was to prove or disprove the hypothesis that the Site is or was a source of tetrachloroethylene (Perc) to the ground water flowing to the City of Fort Valley Municipal Wells 1 and 2. All soil samples at the site consisted of a red sandy clay (Reference 13). This clay corresponds to a clay layer that occurred in four monitoring wells within 1/4 mile of the site that were recently completed by the Georgia Geologic Survey (Reference 13). This clay layer extended from about 1-2 feet BLS to about 30 feet BLS where it was in contact with a kaolin clay layer. Monitoring well cluster 4C, 21 and 4T constructed as part of the Wolfolk Chemical Works NPL Investigation (Figure 4) shows a sandy clay from land surface to about 17 feet BLS, a kaolin clay layer from about 30-43 feet BLS, and a sandy clay from 55-70 feet BLS. The occurrence of these clay layers plus the fact that no Perc was detected in MW-4C (screened just above the kaolin clay layer) leads to the conclusion that the Perc contamination in City Wells 1 and 2 cannot be attributed to the Site.

The Geologic Survey and the Hazardous Waste Management Branches of the Georgia Environmental Protection Division are conducting an on going investigation into the source or sources of the Perc in Fort Valley City Wells 1 and 2. The information from other SIs that are presently being conducted in the immediate area of City Wells 1 and 2 and the data from GSB monitoring wells presently under construction will be used to help pinpoint the source or sources.

## **References**

1. USDA (1977): Soil Survey of Peach and Houston Counties, Georgia.
2. Draft Remedial Investigation Report, Woolfolk Chemical Works Site-Fort Valley, Georgia, CH2M Hill, July 1992
3. Work Plan for Investigating the Relation Between PCE Found in Fort Valley Water Supply Wells and the Woolfolk Chemical Works Superfund Site, March 17, 1997.
4. Frost Associates (1997) CENTRAX Data.
5. McFarlene, Roger, U.S. Geological Survey, Phone Call (770) 903-9100, 11 December 1997.
6. U.S. Department of Housing and Urban Development, Flood Hazard Rate Map of Peach County, Georgia, 25 June 1976.
7. Schleger, Steve, Georgia Department of Natural Resources, Wildlife Resources Division, Fort Valley, Phone Call (912) 825-6151, 12 December 1997.
8. Odom, Ron R., Georgia's Protected Wildlife, Georgia Department of Natural Resources, Game and Fish Division, Endangered Wildlife Program, 15 September 1977.
9. Patrick, Thomas S., Protected Plants of Georgia, Georgia Department of Natural Resources, Wildlife Resources Division, Georgia Natural Heritage Program, 1995.
10. Site Reconnaissance and Sampling Trip Report.
11. December 11, 1996 EPD Geologic Survey Branch Memorandum.
12. Mr. Steven W. Lindsey, President Anthoine Machine Works, Verbal Communication.
13. Larry Papetti, Georgia Geologic Survey, Personal Communication
14. GA. EPD Files
15. Brad Addison, GA. EPD Drinking Water Program, Personal Communication.

Figure 1

(FORT VALLEY EAST)      BYRON 10M

099

52

SITE MAP  
ANTHONINE MACHINE WORKS  
FORT VALLEY, GEORGIA

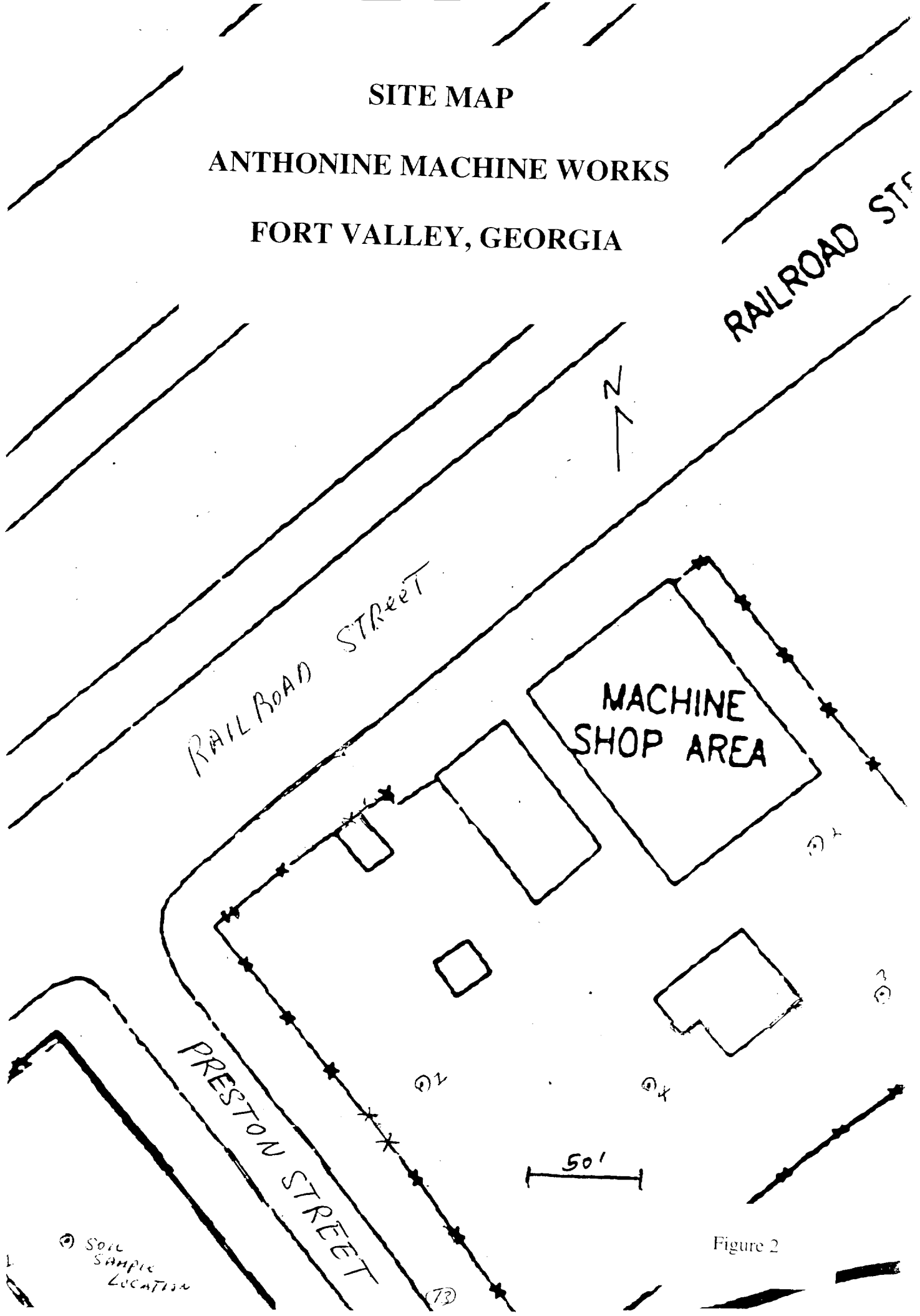


Figure 2

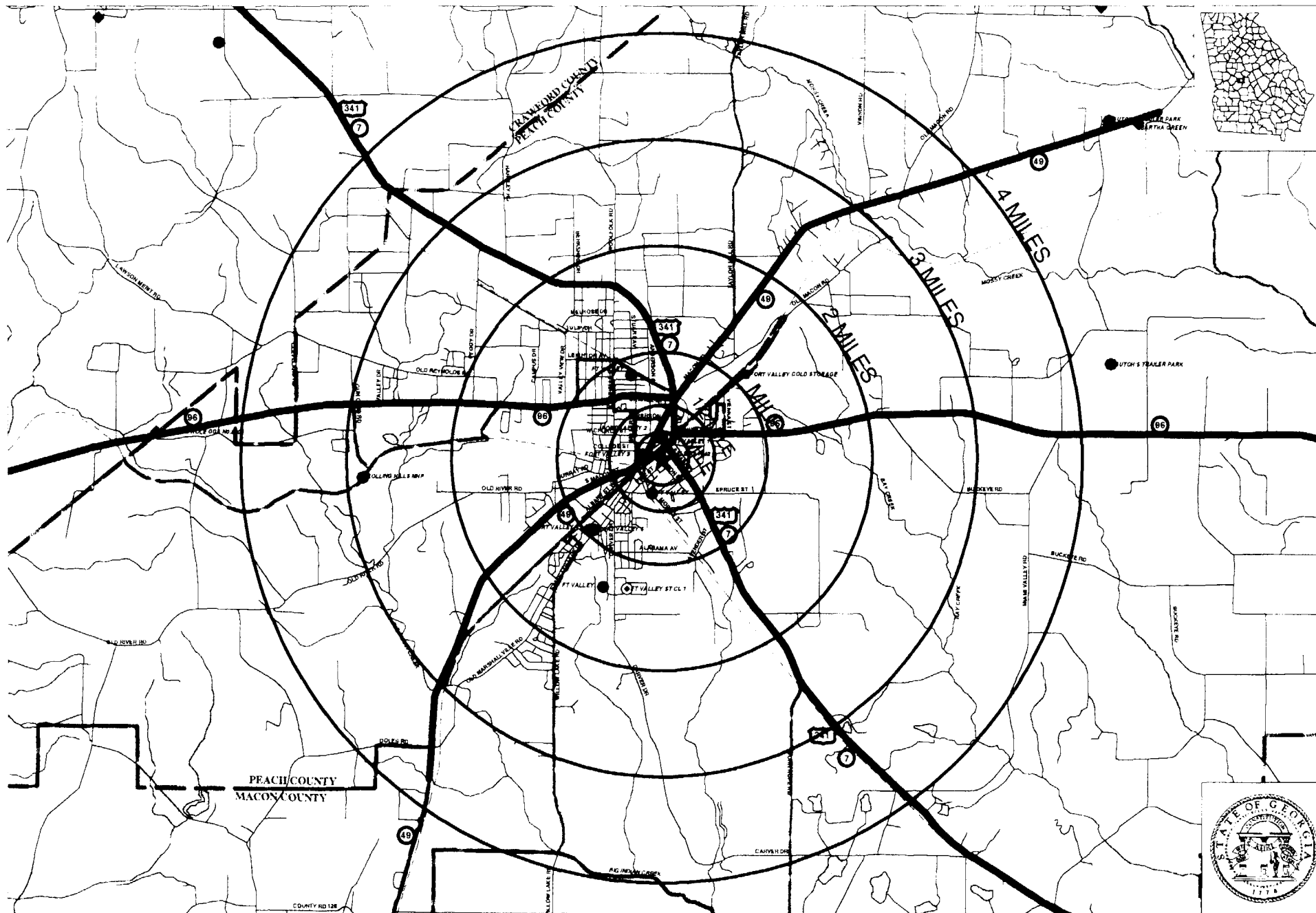


Figure 3

74

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>■ Census Block Group with &gt;zero non-public supply well</li> <li>□ Census Block Group served by public water</li> <li>● Public Supply Well</li> <li>○ Surface Water Intake</li> <li>◆ Domestic</li> <li>◆ Unused W.</li> <li>★ Spring</li> </ul> | <ul style="list-style-type: none"> <li>■ Industrial Well</li> <li>▲ Commercial Well</li> <li>▲ Irrigation Well</li> <li>✚ Livestock well</li> <li>▼ Well - Unknown use</li> <li>◎ Other Well</li> </ul> | <ul style="list-style-type: none"> <li>--- County Boundary</li> <li>— Road</li> <li>— Major Highway</li> <li>— Stream/River</li> <li>— Railroad</li> <li>Wetland</li> </ul> |
|---|---|---|

**ANTHOINE MACHINE WORKS**  
**RAILROAD STREET**  
**FORT VALLEY, PEACH COUNTY**

1/4, 1/2, 1, 2, 3 and 4 MILE RADII Well Locations  
 32° 33' 4.8" LAT / 83° 53' 9.3" LO.

SOURCES: Georgia Public Water Source Inventory, 1994; US Census Bureau 1990; Ga. Water Source Inv., USGS, 1995

12/24/97



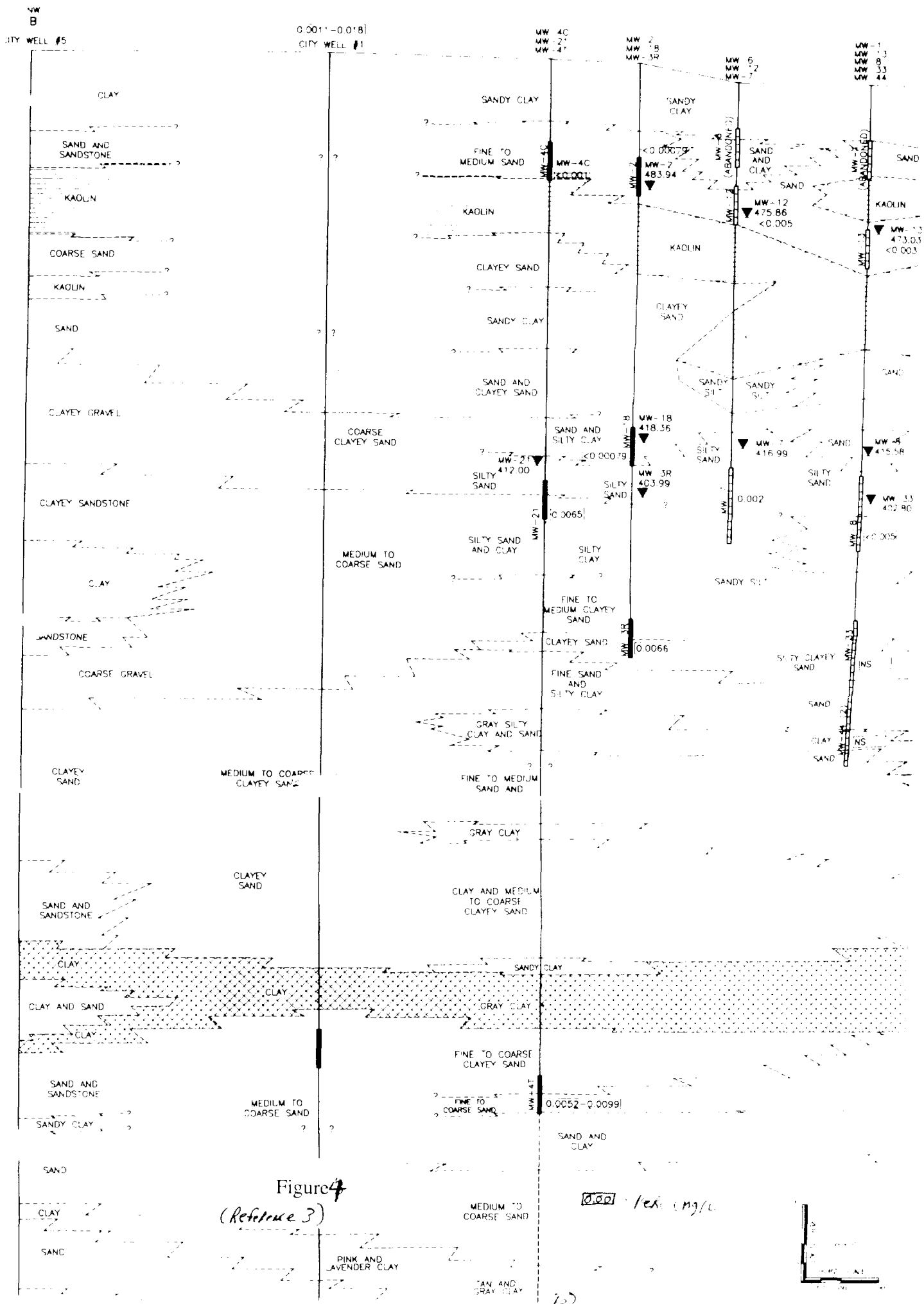
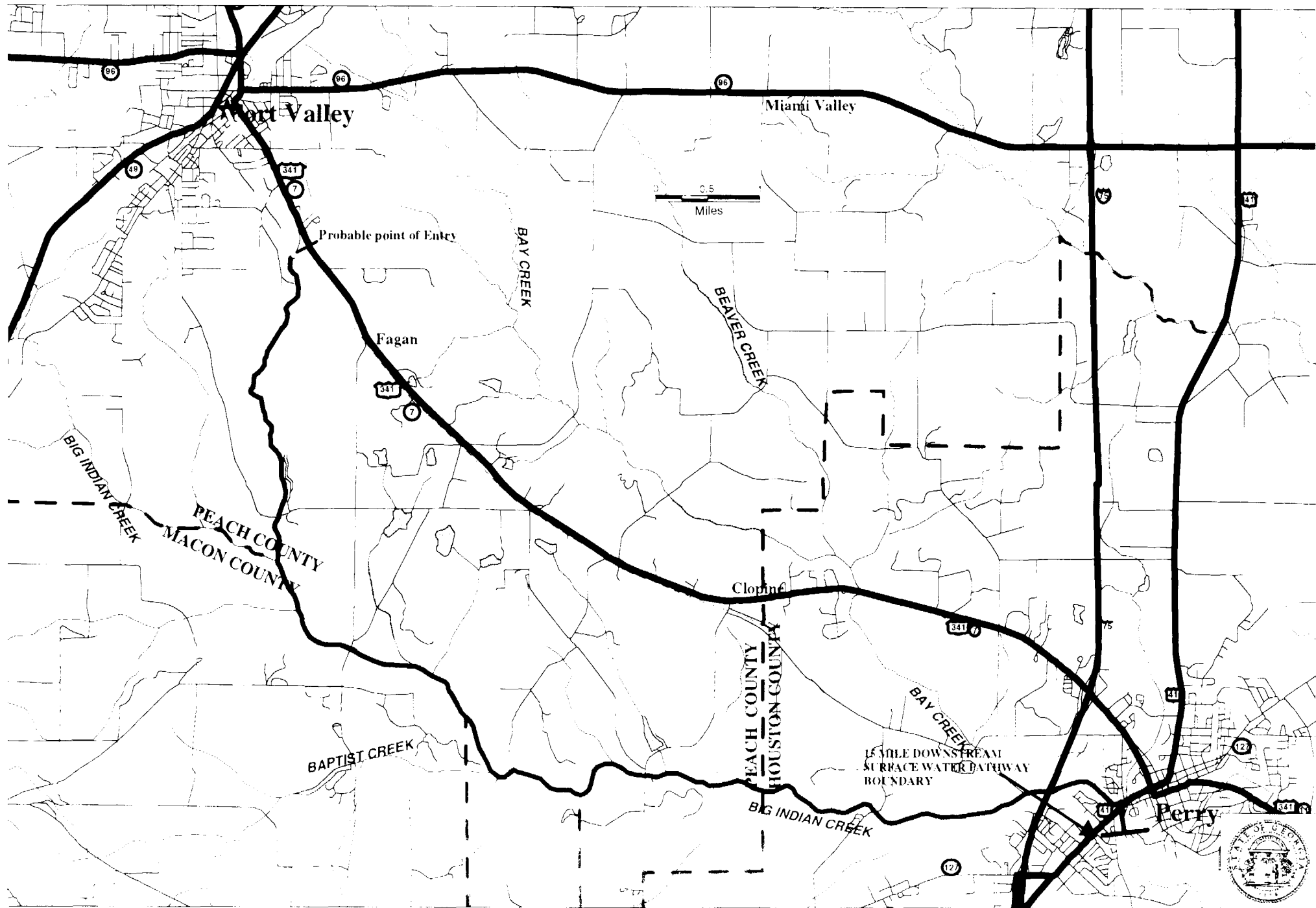


Figure 4  
(Reference 3)

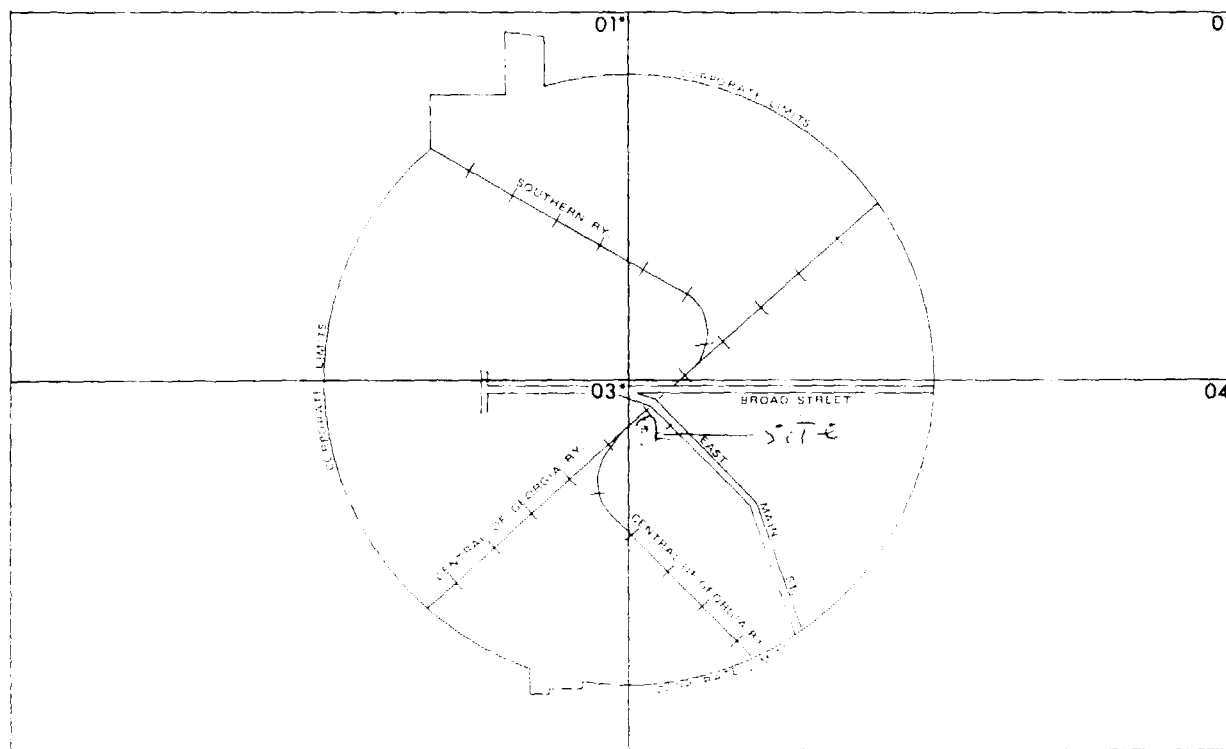
0.0011-0.018 (mg/L)





# ANTHOINE MACHINE WORKS - FORT VALLEY, PEACH COUNTY 15 MILE SURFACE WATER DOWNSTREAM PATHWAY

Figure 6



\*NOT PRINTED (ALL ZONE C)



# KEY TO SYMBOLS

ZONE C
ZONE A DATE
ZONE C

ZONE DESIGNATIONS\* WITH  
DATE OF IDENTIFICATION  
# 12/2/74

Base Flood Elevation Line -----513-----

Base Flood Elevation 1513' MSL

Elevation Reference Mark RM?

River Mile 1 M 15

## \*EXPLANATION OF ZONE DESIGNATIONS

A flood insurance map displays the zone designations for a community according to areas of designated flood hazards. The zone designations used by FIA are:

Zone Symbol	Category
A	Area of special flood hazards, SFH, and without base flood elevations determined.
A1 through A30	Area of special flood hazards (SFH) with base flood elevations. Zones are assigned according to flood hazard factors and dates of SFH identification.
AQ	Area of special flood hazards that have shallow flood depths less than four feet and are undrained stable flood paths. Base flood elevations are not determined.
V	Area of special flood hazards with velocity that are inundated by tidal floods. Zones are assigned according to flood hazard factors and dates of identification.
M	Area of moderate flood hazards.
C	Area of minor flood hazards.
X	Area of undetermined but possible flood hazards.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE JUNE 28, 1974

MAP REVISED JANUARY 9, 1976  
TO REFLECT SURVEY MAP FLOOD HAZARD BOUNDARY

MAP REVISED JUNE 25, 1977  
TO REFLECT INVERSION FROM 1513' MSL TO 1515' MSL

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
Federal Insurance Administration

FLOOD HAZARD BOUNDARY MAP H-101-04  
FLOOD INSURANCE RATE MAP I-101-04

## MAP INDEX

CITY OF FORT VALLEY, GA  
WELLS CO.

COMMUNITY NO 1301488

## APPENDIX 1

# Site Investigation Sampling Plan

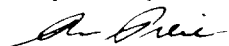
## ANTHOINE MACHINE WORKS

GA0001020874

Fort Valley, Georgia

SEPTEMBER 30, 1997

Prepared by:



Robert Pierce, Geologist

Georgia Environmental Protection Division

Hazardous Waste Management Branch

Approved by:



David Yardumian

Unit Coordinator

Hazardous Waste Management Branch

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## **1.0 INTRODUCTION**

Under Authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization of 1986 (SARA), and pursuant to grant commitments to the U. S. Environmental Protection Agency (USEPA) Region IV, the State of Georgia Environmental Protection Division (EPD) is conducting a site inspection (SI) at the Anthoine Machine Works site in Fort Valley, Peach County, Georgia. The purpose of the (SI) is to collect information at the Anthoine Machine Works Site sufficient to assess the threat posed to human health and the environment, and to determine the need for additional investigation under CERCLA/SARA or other authority. The scope of the SI includes review of available file information, sampling of waste and environmental media to test preliminary assessment (PA) hypotheses and document hazard ranking system (HRS) factor values and scores, and collecting non-sampling information.

## **2.0 SITE DESCRIPTION/LOCATION**

The Anthoine Machine Works Site was identified on the Georgia Wellhead Protection Plan for the City of Fort Valley as a potential source of Tetrachloroethylene (PCE) in City of Fort Valley municipal wells 1 and 2. The plan was prepared by the Georgia Geologic Survey Branch (GSB) of the Georgia Environmental Protection Division and is dated 10/25/96. A separate GSB memo dated 12/11/96 specifically evaluates potential sources of PCE in these municipal wells, and lists the machine works as a potential PCE source. Anthoine Machine Works is located at 311 Railroad St., Fort Valley, Georgia 31030 (Latitude 32°33'04.8"N, Longitude 83°53'09.3"W). The site is in downtown Fort Valley at the intersection of Railroad and Preston Streets. The surrounding land use is industrial. The Central of Georgia Railroad tracks are just across Railroad St. to the NorthWest, and the former Woolfolk Chemical Works bounds the machine works' property to the southeast. The site property is bounded to the northeast by a vacant field, and to the southwest by Preston Street.

## **3.0 OPERATIONAL HISTORY & WASTE CHARACTERISTICS**

Anthoine Machine Works has been in Fort Valley Since the late 1800's. The original facility is shown in a 1930 Sanborn Fire Insurance Map at the south east corner of Preston and Railroad Streets approximately 200 feet southwest of its present location. Currently, organic solvents are used to wash parts at a small cleaning station. Spent solvents are currently being removed and replaced by Safety Kleen, Inc.

## **4.0 QUALITY CONTROL PROCEDURES**

In order to avoid cross contamination, dedicated scoops, dishes, and coring equipment will be used as much as possible.

## **5.0 INVESTIGATION-DERIVED WASTE PLAN**

Since only soil will be sampled, all soil not collected as a sample will be placed back in the hole from which it was removed.

## **6.0 PROJECT MANAGEMENT**

The project manager for the Anthoine Machine Works SI sampling will be Robert Pierce of the Georgia Environmental Protection Division's Hazardous Waste Management Branch. The project manager will also serve as the site safety officer, and will collect and manage all samples. Four (4) soil samples are proposed for this site.

## **7.0 FIELD EQUIPMENT/HEALTH AND SAFETY**

Safety monitoring equipment will consist of an Hnu PID which will be used at all sampling locations prior and during sampling. Protective clothing will be Level D, with latex gloves worn during sampling operations. Hard hats, ear protection, and steel toed shoes will be worn at all times around the direct push soil probe.

## **8.0 PROJECT SCHEDULE**

The samples will be collected the week of October 27 1997, and will be taken to the Georgia Environmental Protection Laboratory either late the same day or on the following day. The laboratory turn around time is uncertain but should be about 4 weeks.

## **9.0 COLLECTION OF NON-SAMPLING DATA**

Only immediately apparent visual data will be collected.

## **10.0 SAMPLING ACTIVITIES**

This site is located in the vicinity of several potential sources of tetrachloroethylene (PCE), and City Wells 1 and 2. These two city wells utilize the Tuscaloosa aquifer and have shown PCE contamination above the MCL. An existing Tuscaloosa monitoring well located on the Anthoine Machine Works Site has shown detectable amounts of PCE. Since we know that PCE ground water contamination exists at depth under the site, we are proposing four (4) soil samples be taken above the shallow water table which is probably 30 feet BLS. The samples will be analyzed for VOCs. If these samples show PCE contamination, it may be reasonable to attribute at least part of the municipal well contamination to downward migration of PCE from the facility. A sample location map is attached.

## **11.0 QUALITY ASSURANCE**

Sample containers preservatives, and holding times will conform to the USEPA Region IV SOP/QAM dated May 1996.

## **12.0 FIELD ACTIVITIES**

Samples will be collected the week of October 27, 1997 using direct push technology. There will be three people involved. Two people will operate the direct push soil probe, and the third person will serve as safety officer as well as collect and manage the samples. Chain of custody protocol will be observed.

# SITE MAP

ANTHONINE MACHINE WORKS

FORT VALLEY, GEORGIA

RAILROAD ST



MACHINE  
SHOP AREA

Soil  
Sample

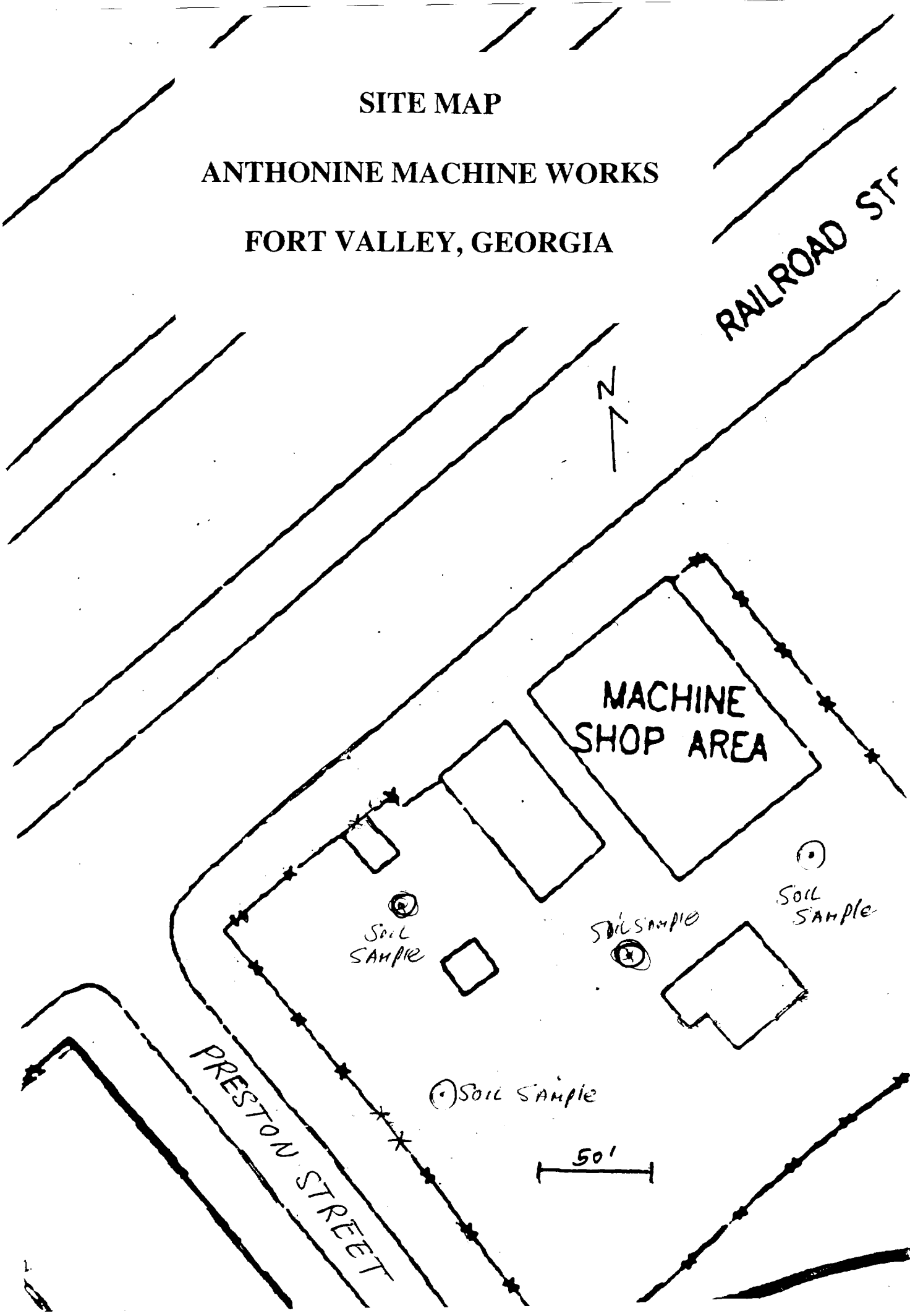
Soil Sample

Soil  
Sample

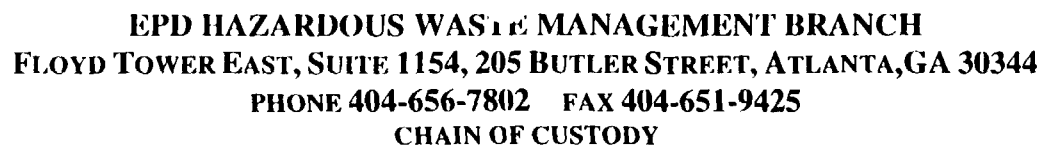
Soil Sample

50'

PRESTON STREET



## APPENDIX 2

[illegible]

TRANSFERRED BY (NAME)	TO (NAME) (IF FINAL: LAB NAME)	DATE	TIME	METHOD OF TRANSFER	RECEIVED BY (NAME)	DATE
Bob Pierie	EPD LAB	10/30/97	940	HAND	Mike Gusinajian	10/30/97

SAMPLE #1

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)  
REQUEST FOR LABORATORY ANALYSIS

GHL

Facility Name/Location: ANTHOINE MACHINE WORKS / FORT VALLEY, GA  
Sample Collected By/Phone: Bob Pierce 404-656-2833

Collection Date: 10/29/97

Georgia Dept. of Natural Resources

Date Submitted To Lab: 10/30/97

HWMB LOG NUMBER: 7369  
(File a separate Request Sheet for each sample point)

AB84433 Due date: 11/26/97  
Date submitted: 10/30/97  
SourceID: ADHOC ANTHOINE MACHINE WORKS HW7369  
Sample collector: B PEIRCE

Analysis Needed By: Routine ☒ Other (spec)

Sample Description (check one)

Waste ☐ Soil/Sediment ☒ Sludge ☐  
Ground Water ☐ Surface Water ☐ Drinking Water Well ☐

Concentration of Organics Requested (estimated): High ☐ Low ☒ Other (e.g., rinse blank - specify)

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

SOIL SAMPLE FROM MACHINE WORKS' PROPERTY - POSSIBLE PCE CONTAMINATION.

Applicable Hazardous Waste Codes (if known)

Special Precautions:

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result)

1. TOTAL ORGANICS

Semi-Volatiles (Acid & Base/Neutral) ☐  
Volatiles ☒  
Pesticides ☐  
Herbicides ☐  
Organophosphorous Pesticides ☐  
PCB ☐  
BETX ☐  
Total Petroleum Hydrocarbon ☐  
Organics Special Request:

2. TOTAL METALS

ICP Metals Scan (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)  
Mercury  
Metals Special Request:

4 OZ. JARS  
8 OZ. JARS  
16 OZ. JARS

3. TCLP ORGANICS

Volatiles ☐  
Semi-Volatiles (Acid & Base/Neutral) ☐  
Additional Specific Organics For TCLP:

Pesticides ☐  
Herbicides ☐

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)  
Mercury

Additional Metals For TCLP:

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Reviewed By (HWMB): [Signature]  
Approved By (HWMB): [Signature]

Date: 10/22/97  
Date: 10/30

Received By (EPD Lab): MLB  
Date (EPD Lab): 10/30/97

**GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900

(404) 206-5269

**Hazardous Waste Management Program**

**LABORATORY REPORT**

TO:

**Sample Collector:** B PEIRCE

**Sample ID :** AB84433

**Date Received:** 10/30/97

**Date Collected:** 10/29/97

**Time Received:** 10:59

**Time Collected:** -0-

**Reporting Date:** 11/12/97

**DNR Lab Reference:** HW7369

**Sample Site:** ANTHOINE MACHINE WORKS HW7369

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
<b>anics EPA Method 8260 Soil</b>									
	1,1,1,2-Tetrachloroethane		8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1,1-Trichloroethane	34509	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1,2,2-Tetrachloroethane	34519	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1,2-Trichloroethane	34514	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1-Dichloroethane	34499	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1-Dichloroethene	34504	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,1-Dichloropropene	77168	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2,3-Trichlorobenzene	77613	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2,3-Trichloropropane	78490	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2,4-Trichlorobenzene	34554	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2,4-Trimethylbenzene	34554	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2-Dibromo-3-chloropropan	38487	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2-Dibromoethane	79749	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2-Dichlorobenzene	34539	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,2-Dichloroethane	34534	8260	5	Not detected		ug/kg	SMA	11/05/97

**Page: 1**

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

**Laboratory Contacts:**

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	2-Dichloropropane	34544	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,3,5-Trimethylbenzene	77226	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,3-Dichlorobenzene	34569	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,3-Dichloropropane	77173	8260	5	Not detected		ug/kg	SMA	11/05/97
	1,4-Dichlorobenzene	34574	8260	5	Not detected		ug/kg	SMA	11/05/97
	2,2-Dichloropropane	77170	8260	5	Not detected		ug/kg	SMA	11/05/97
	2-Butanone	75078	8260	100	Not detected		ug/kg	SMA	11/05/97
	2-Chloroethyl vinyl ether	34579	8260	5	Not detected		ug/kg	SMA	11/05/97
	2-Chlorotoluene	77225	8260	5	Not detected		ug/kg	SMA	11/05/97
	2-Hexanone	75166	8260	50	Not detected		ug/kg	SMA	11/05/97
	4-Chlorotoluene	77277	8260	5	Not detected		ug/kg	SMA	11/05/97
	4-Methyl-2-Pentanone	75169	8260	50	Not detected		ug/kg	SMA	11/05/97
	Acetone	75059	8260	100	Not detected		ug/kg	SMA	11/05/97
	Benzene	34237	8260	5	Not detected		ug/kg	SMA	11/05/97
	Bromobenzene	78491	8260	5	Not detected		ug/kg	SMA	11/05/97
	Bromochloromethane	77297	8260	5	Not detected		ug/kg	SMA	11/05/97
	Bromodichloromethane	34330	8260	5	Not detected		ug/kg	SMA	11/05/97
	Bromofluorobenzene(Surrogate QC Std.)		8260	-0-	44.6		ug/kg	SMA	11/05/97
	Bromoform	34290	8260	5	Not detected		ug/kg	SMA	11/05/97
	Bromomethane	34416	8260	10	Not detected		ug/kg	SMA	11/05/97
	Carbon Disulfide	78544	8260	5	Not detected		ug/kg	SMA	11/05/97
	Carbon Tetrachloride	34299	8260	5	Not detected		ug/kg	SMA	11/05/97
	Chlorobenzene	34304	8260	5	Not detected		ug/kg	SMA	11/05/97
	Chloroethane	34314	8260	10	Not detected		ug/kg	SMA	11/05/97
	Chloroform	34318	8260	5	Not detected		ug/kg	SMA	11/05/97
	Chloromethane	34421	8260	10	Not detected		ug/kg	SMA	11/05/97
	cis-1,2-Dichloroethene	77093	8260	5	Not detected		ug/kg	SMA	11/05/97
	cis-1,3-Dichloropropene	34702	8260	5	Not detected		ug/kg	SMA	11/05/97
	Dibromochloromethane	34309	8260	5	Not detected		ug/kg	SMA	11/05/97
	Dibromofluoromethane(Surrogate QC Std.)		8260	-0-	48.9		ug/kg	SMA	11/05/97
	Dibromomethane	78756	8260	5	Not detected		ug/kg	SMA	11/05/97
	Dichlorodifluoromethane	34334	8260	5	Not detected		ug/kg	SMA	11/05/97
	Ethylbenzene	34374	8260	5	Not detected		ug/kg	SMA	11/05/97
	Hexachlorobutadiene	39705	8260	5	Not detected		ug/kg	SMA	11/05/97
	Iodomethane	73121	8260	5	Not detected		ug/kg	SMA	11/05/97
	Isopropylbenzene	77223	8260	5	Not detected		ug/kg	SMA	11/05/97

Sample ID : AB84433

Page: 2

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

<b>Laboratory Contacts:</b>	Inorganics:	Pat Sammons	Ext. 5239
	Metals :	Harjinder Ghuman	Ext. 5223
	Organics:	Danny Reed	Ext. 5252
	GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	ethylene Chloride	34426	8260	5	Not detected		ug/kg	SMA	11/05/97
	n-Butylbenzene	77342	8260	5	Not detected		ug/kg	SMA	11/05/97
	n-Propylbenzene	77224	8260	5	Not detected		ug/kg	SMA	11/05/97
	Naphthalene	34445	8260	5	Not detected		ug/kg	SMA	11/05/97
	o-Xylene	78362	8260	5	Not detected		ug/kg	SMA	11/05/97
	p,m-Xylene	45510	8260	5	Not detected		ug/kg	SMA	11/05/97
	p-Isopropyltoluene	77356	8260	5	Not detected		ug/kg	SMA	11/05/97
	sec-Butylbenzene	77350	8260	5	Not detected		ug/kg	SMA	11/05/97
	Styrene	75192	8260	5	Not detected		ug/kg	SMA	11/05/97
	tert-Butylbenzene	77353	8260	5	Not detected		ug/kg	SMA	11/05/97
	<u>Tetrachloroethene</u>	34478	8260	5	Not detected		ug/kg	SMA	11/05/97
	Toluene	34483	8260	5	Not detected		ug/kg	SMA	11/05/97
	Toluene-d8(Surrogate QC Std.)		8260	-0-	46.9		ug/kg	SMA	11/05/97
	trans-1,2-Dichloroethene	34549	8260	5	Not detected		ug/kg	SMA	11/05/97
	trans-1,3-Dichloropropene	34697	8260	5	Not detected		ug/kg	SMA	11/05/97
	Trichloroethene	34487	8260	5	Not detected		ug/kg	SMA	11/05/97
	Trichlorofluoromethane	34491	8260	5	Not detected		ug/kg	SMA	11/05/97
	Vinyl Acetate	78498	8260	50	Not detected		ug/kg	SMA	11/05/97
	Vinyl Chloride	34495	8260	2	Not detected		ug/kg	SMA	11/05/97

ample comments :

*End of Report*

Sample ID : AB84433

Page: 3

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

<b>Laboratory Contacts:</b>	Inorganics:	Pat Sammons	Ext. 5239
	Metals :	Harjinder Ghuman	Ext. 5223
	Organics:	Danny Reed	Ext. 5252
	GC Mass Spec:	Steve Bryan	Ext. 5260

SAMPLE # 2

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)  
REQUEST FOR LABORATORY ANALYSIS

GHL

Facility Name/Location: ANTHOINE MACHINE WORKS / FORT VALLEY, GASample Collected By/Phone: Bob Pierce 404-656-2833Collection Date: 10/29/97

Georgia Dept. of Natural Resources

Date Submitted To Lab: 10/30/97HWMB LOG NUMBER: 7370

(File a separate Request Sheet for each sample point)

AB84434 Due date: 11/26/97

Date submitted: 10/30/97

sourceID: ADHOC ANTHOINE MACHINE WORKS HW7370

Sample collector: B PEIRCE

Analysis Needed By: Routine ☒ Other (specify)

Sample Description (check one)

Waste ☐Soil/Sediment ☒Sludge ☐Ground Water ☐Surface Water ☐Drinking Water Well ☐Concentration of Organics Requested (estimated): High ☐ Low ☒ Other (e.g., rinse blank - specify) ☐

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

SOIL SAMPLE FROM MACHINE WORKS' PROPERTY - POSSIBLE PCE CONTAMINATION.

Applicable Hazardous Waste Codes (if known) \_\_\_\_\_

Special Precautions: \_\_\_\_\_

## ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result)

## 1. TOTAL ORGANICS

Semi-Volatiles  
(Acid & Base/Neutral) \_\_\_\_\_Volatiles ☒

Pesticides \_\_\_\_\_

Herbicides \_\_\_\_\_

Organophosphorous Pesticides \_\_\_\_\_

PCB \_\_\_\_\_

BETX \_\_\_\_\_

Total Petroleum Hydrocarbon \_\_\_\_\_

Organics Special Request: \_\_\_\_\_

## 2. TOTAL METALS

ICP Metals Scan  
(Ag, As, Ba, Cd, Cr, Ni, Pb, Se) \_\_\_\_\_

Mercury \_\_\_\_\_

Metals Special Request: \_\_\_\_\_

4 OZ. JARS

8 OZ. JARS

16 OZ. JARS

## 3. TCLP ORGANICS

Volatiles \_\_\_\_\_

Semi-Volatiles (Acid &amp; Base/Neutral) \_\_\_\_\_

Additional Specific Organics For TCLP: \_\_\_\_\_

Pesticides \_\_\_\_\_

Herbicides \_\_\_\_\_

## 4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) \_\_\_\_\_

Additional Metals For TCLP: \_\_\_\_\_

Mercury \_\_\_\_\_

## 5. ADDITIONAL ANALYSIS REQUESTED (see list on back): \_\_\_\_\_

Reviewed By (HWMB): [Signature]Date: 10/20/97Received By (EPD Lab): MLBApproved By (HWMB): [Signature]Date: 10/30Date (EPD Lab): 10/30/97

GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION

455 14th Street NW, Atlanta, GA 30318-7900

(404) 206-5269

Hazardous Waste Management Program  
**LABORATORY REPORT**

TO:

Sample Collector: B PEIRCE

Sample ID : AB84434

Date Received: 10/30/97

Date Collected: 10/29/97

Time Received: 10:59

Time Collected: -0-

Reporting Date: 11/12/97

DNR Lab Reference: HW7370

Sample Site: ANTHOINE MACHINE WORKS HW7370

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
<b>Inorganics EPA Method 8260 Soil</b>									
	1,1,1,2-Tetrachloroethane		8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,1-Trichloroethane	34509	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2,2-Tetrachloroethane	34519	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2-Trichloroethane	34514	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethane	34499	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethene	34504	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloropropene	77168	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichlorobenzene	77613	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichloropropane	78490	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trichlorobenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trimethylbenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromo-3-chloropropan	38487	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromoethane	79749	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichlorobenzene	34539	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichloroethane	34534	8260	5	Not detected		ug/kg	SMA	11/04/97

Page: 1

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

Laboratory Contacts:

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	2-Dichloropropane	34544	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3,5-Trimethylbenzene	77226	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichlorobenzene	34569	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichloropropane	77173	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,4-Dichlorobenzene	34574	8260	5	Not detected		ug/kg	SMA	11/04/97
	2,2-Dichloropropane	77170	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Butanone	75078	8260	100	Not detected		ug/kg	SMA	11/04/97
	2-Chloroethyl vinyl ether	34579	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Chlorotoluene	77225	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Hexanone	75166	8260	50	Not detected		ug/kg	SMA	11/04/97
	4-Chlorotoluene	77277	8260	5	Not detected		ug/kg	SMA	11/04/97
	4-Methyl-2-Pentanone	75169	8260	50	Not detected		ug/kg	SMA	11/04/97
	Acetone	75059	8260	100	Not detected		ug/kg	SMA	11/04/97
	Benzene	34237	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromobenzene	78491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromochloromethane	77297	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromodichloromethane	34330	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromofluorobenzene(Surrogate QC Std.)		8260	-0-	43.6		ug/kg	SMA	11/04/97
	Bromoform	34290	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromomethane	34416	8260	10	Not detected		ug/kg	SMA	11/04/97
	Carbon Disulfide	78544	8260	5	Not detected		ug/kg	SMA	11/04/97
	Carbon Tetrachloride	34299	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chlorobenzene	34304	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloroethane	34314	8260	10	Not detected		ug/kg	SMA	11/04/97
	Chloroform	34318	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloromethane	34421	8260	10	Not detected		ug/kg	SMA	11/04/97
	cis-1,2-Dichloroethene	77093	8260	5	Not detected		ug/kg	SMA	11/04/97
	cis-1,3-Dichloropropene	34702	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromochloromethane	34309	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromofluoromethane(Surrogate QC Std.)		8260	-0-	46.8		ug/kg	SMA	11/04/97
	Dibromomethane	78756	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dichlorodifluoromethane	34334	8260	5	Not detected		ug/kg	SMA	11/04/97
	Ethylbenzene	34374	8260	5	Not detected		ug/kg	SMA	11/04/97
	Hexachlorobutadiene	39705	8260	5	Not detected		ug/kg	SMA	11/04/97
	Iodomethane	73121	8260	5	Not detected		ug/kg	SMA	11/04/97
	Isopropylbenzene	77223	8260	5	Not detected		ug/kg	SMA	11/04/97

Sample ID : AB84434

Page: 2

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

<b>Laboratory Contacts:</b>	Inorganics:	Pat Sammons	Ext. 5239
	Metals :	Harjinder Ghuman	Ext. 5223
	Organics:	Danny Reed	Ext. 5252
	GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	Ethylene Chloride	34426	8260	5	Not detected		ug/kg	SMA	11/04/97
	n-Butylbenzene	77342	8260	5	Not detected		ug/kg	SMA	11/04/97
	n-Propylbenzene	77224	8260	5	Not detected		ug/kg	SMA	11/04/97
	Naphthalene	34445	8260	5	Not detected		ug/kg	SMA	11/04/97
	o-Xylene	78362	8260	5	Not detected		ug/kg	SMA	11/04/97
	p,m-Xylene	45510	8260	5	Not detected		ug/kg	SMA	11/04/97
	p-Isopropyltoluene	77356	8260	5	Not detected		ug/kg	SMA	11/04/97
	sec-Butylbenzene	77350	8260	5	Not detected		ug/kg	SMA	11/04/97
	Styrene	75192	8260	5	Not detected		ug/kg	SMA	11/04/97
	tert-Butylbenzene	77353	8260	5	Not detected		ug/kg	SMA	11/04/97
	<u>Tetrachloroethene</u>	34478	8260	5	Not detected		ug/kg	SMA	11/04/97
	Toluene	34483	8260	5	Trace		ug/kg	SMA	11/04/97
	Toluene-d8(Surrogate QC Std.)		8260	-0-	45.1		ug/kg	SMA	11/04/97
	trans-1,2-Dichloroethene	34549	8260	5	Not detected		ug/kg	SMA	11/04/97
	trans-1,3-Dichloropropene	34697	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichloroethene	34487	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichlorofluoromethane	34491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Vinyl Acetate	78498	8260	50	Not detected		ug/kg	SMA	11/04/97
	Vinyl Chloride	34495	8260	2	Not detected		ug/kg	SMA	11/04/97

Sample comments :

*End of Report*

Sample ID : AB84434

Page: 3

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

<b>Laboratory Contacts:</b>	Inorganics:	Pat Sammons	Ext. 5239
	Metals :	Harjinder Ghuman	Ext. 5223
	Organics:	Danny Reed	Ext. 5252
	GC Mass Spec:	Steve Bryan	Ext. 5260

## REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location:

ANTHOINE MACHINE WORKS / FORT VALLEY, GA

Sample Collected By/Phone:

Bob Pierce 404-656-2833

Collection Date:

10/29/97

Georgia Dept. of Natural Resources

Date Submitted To Lab:

10/30/97

HWMB LOG NUMBER:

7371

(File a separate Request Sheet for each sample point)

AB84435 Due date: 11/26/97

Date submitted: 10/30/97

sourceID: ADHOC ANTHOINE MACHINE WORKS HW7371

Sample collector: B PEIRCE

Analysis Needed By: Routine ☒ Oth

Sample Description (check one)

Waste ☐Soil/Sediment ☒Sludge ☐Ground Water ☐Surface Water ☐Drinking Water Well ☐Concentration of Organics Requested (estimated): High ☐ Low ☒ Other (e.g., rinse blank - specify) ☐

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

SOIL SAMPLE FROM MACHINE WORKS' PROPERTY - POSSIBLE PCE CONTAMINATION.Applicable Hazardous Waste Codes (if known) ☐Special Precautions: ☐

## ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

## 1. TOTAL ORGANICS

Semi-Volatiles  
(Acid & Base/Neutral) ☐Volatiles ☒Pesticides ☐Herbicides ☐Organophosphorous Pesticides ☐PCB ☐BETX ☐Total Petroleum Hydrocarbon ☐Organics Special Request: ☐

## 2. TOTAL METALS

ICP Metals Scan  
(Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ☐Mercury ☐Metals Special Request: ☐4 OZ. JARS  
8 OZ. JARS  
16 OZ. JARS

## 3. TCLP ORGANICS

Volatiles ☐Semi-Volatiles (Acid & Base/Neutral) ☐Additional Specific Organics For TCLP: ☐Pesticides ☐Herbicides ☐

## 4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ☐Mercury ☐Additional Metals For TCLP: ☐ADDITIONAL ANALYSIS REQUESTED (see list on back): ☐Reviewed By (HWMB): [Signature]Date: 10/22/97Received By (EPD Lab): MLBApproved By (HWMB): [Signature]Date: 10/30Date (EPD Lab): 10/30/97

**GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900

(404) 206-5269

**Hazardous Waste Management Program**

**LABORATORY REPORT**

TO:

**Sample Collector:** B PEIRCE

**Sample ID :** AB84435

**Date Received:** 10/30/97

**Date Collected:** 10/29/97

**Time Received:** 10:59

**Time Collected:** -0-

**Reporting Date:** 11/12/97

**DNR Lab Reference:** HW7371

**Sample Site:** ANTHOINE MACHINE WORKS HW7371

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
<b>Inorganics EPA Method 8260 Soil</b>									
	1,1,1,2-Tetrachloroethane		8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,1-Trichloroethane	34509	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2,2-Tetrachloroethane	34519	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2-Trichloroethane	34514	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethane	34499	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethene	34504	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloropropene	77168	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichlorobenzene	77613	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichloropropane	78490	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trichlorobenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trimethylbenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromo-3-chloropropan	38487	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromoethane	79749	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichlorobenzene	34539	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichloroethane	34534	8260	5	Not detected		ug/kg	SMA	11/04/97

**Page: 1**

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

**Laboratory Contacts:**

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	1,2-Dichloropropane	34544	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3,5-Trimethylbenzene	77226	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichlorobenzene	34569	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichloropropane	77173	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,4-Dichlorobenzene	34574	8260	5	Not detected		ug/kg	SMA	11/04/97
	2,2-Dichloropropane	77170	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Butanone	75078	8260	100	Not detected		ug/kg	SMA	11/04/97
	2-Chloroethyl vinyl ether	34579	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Chlorotoluene	77225	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Hexanone	75166	8260	50	Not detected		ug/kg	SMA	11/04/97
	4-Chlorotoluene	77277	8260	5	Not detected		ug/kg	SMA	11/04/97
	4-Methyl-2-Pentanone	75169	8260	50	Not detected		ug/kg	SMA	11/04/97
	Acetone	75059	8260	100	Not detected		ug/kg	SMA	11/04/97
	Benzene	34237	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromobenzene	78491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromochloromethane	77297	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromodichloromethane	34330	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromofluorobenzene(Surrogate QC Std.)		8260	-0-	45.2		ug/kg	SMA	11/04/97
	Bromoform	34290	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromomethane	34416	8260	10	Not detected		ug/kg	SMA	11/04/97
	Carbon Disulfide	78544	8260	5	Not detected		ug/kg	SMA	11/04/97
	Carbon Tetrachloride	34299	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chlorobenzene	34304	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloroethane	34314	8260	10	Not detected		ug/kg	SMA	11/04/97
	Chloroform	34318	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloromethane	34421	8260	10	Not detected		ug/kg	SMA	11/04/97
	cis-1,2-Dichloroethene	77093	8260	5	Not detected		ug/kg	SMA	11/04/97
	cis-1,3-Dichloropropene	34702	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromochloromethane	34309	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromofluoromethane(Surrogate QC Std.)		8260	-0-	49.2		ug/kg	SMA	11/04/97
	Dibromomethane	78756	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dichlorodifluoromethane	34334	8260	5	Not detected		ug/kg	SMA	11/04/97
	Ethylbenzene	34374	8260	5	Not detected		ug/kg	SMA	11/04/97
	Hexachlorobutadiene	39705	8260	5	Not detected		ug/kg	SMA	11/04/97
	Iodomethane	73121	8260	5	Not detected		ug/kg	SMA	11/04/97
	Isopropylbenzene	77223	8260	5	Not detected		ug/kg	SMA	11/04/97

Sample ID : AB84435

Page: 2

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

**Laboratory Contacts:**

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	Methylene Chloride	34426	8260	5	Not detected		ug/kg	SMA	11/04/97
	o-Butylbenzene	77342	8260	5	Not detected		ug/kg	SMA	11/04/97
	n-Propylbenzene	77224	8260	5	Not detected		ug/kg	SMA	11/04/97
	Naphthalene	34445	8260	5	Not detected		ug/kg	SMA	11/04/97
	o-Xylene	78362	8260	5	Not detected		ug/kg	SMA	11/04/97
	p,m-Xylene	45510	8260	5	Not detected		ug/kg	SMA	11/04/97
	p-Isopropyltoluene	77356	8260	5	Not detected		ug/kg	SMA	11/04/97
	sec-Butylbenzene	77350	8260	5	Not detected		ug/kg	SMA	11/04/97
	Styrene	75192	8260	5	Not detected		ug/kg	SMA	11/04/97
	tert-Butylbenzene	77353	8260	5	Not detected		ug/kg	SMA	11/04/97
	<u>Tetrachloroethene</u>	34478	8260	5	Not detected		ug/kg	SMA	11/04/97
	Toluene	34483	8260	5	Not detected		ug/kg	SMA	11/04/97
	Toluene-d8(Surrogate QC Std.)		8260	-0-	45.1		ug/kg	SMA	11/04/97
	trans-1,2-Dichloroethene	34549	8260	5	Not detected		ug/kg	SMA	11/04/97
	trans-1,3-Dichloropropene	34697	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichloroethene	34487	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichlorofluoromethane	34491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Vinyl Acetate	78498	8260	50	Not detected		ug/kg	SMA	11/04/97
	Vinyl Chloride	34495	8260	2	Not detected		ug/kg	SMA	11/04/97

Sample comments :

*End of Report*

Sample ID : AB84435

Page: 3

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

**Laboratory Contacts:**

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

SAMPLE # 4

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)  
REQUEST FOR LABORATORY ANALYSIS

GHL

Facility Name/Location: ANTHOINE MACHINE WORKS / FORT VALLEY, GA

Sample Collected By/Phone: Bob Pierce 404-656-2833

Collection Date: 10/29/97

Georgia Dept. of Natural Resources

Date Submitted To Lab: 10/30/97

HWMB LOG NUMBER: 7372

(File a separate Request Sheet for each sample point)

Analysis Needed By: Routine ☒ Ot ☐

AB84436 Due date: 11/26/97

Date submitted: 10/30/97

sourceID: ADHOC ANTHOINE MACHINE WORKS HW7372

Sample collector: B PEIRCE

Sample Description (check one)

Waste ☐

Soil/Sediment ☒

Sludge ☐

Ground Water ☐

Surface Water ☐

Drinking Water Well ☐

Concentration of Organics Requested (estimated): High ☐ Low ☒ Other (e.g., rinse blank - specify) ☐

Describe Sample Including Source And Known Properties (e.g., pH, concentration):

SOIL SAMPLE FROM MACHINE WORKS' PROPERTY - POSSIBLE PCE CONTAMINATION.

Applicable Hazardous Waste Codes (if known) ☐

Special Precautions: ☐

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could result.)

1. TOTAL ORGANICS

Semi-Volatiles  
(Acid & Base/Neutral) ☐

Volatiles ☒

Pesticides ☐

Herbicides ☐

Organophosphorous Pesticides ☐

PCB ☐

BETX ☐

Total Petroleum Hydrocarbon ☐

Organics Special Request: ☐

2. TOTAL METALS

ICP Metals Scan  
(Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ☐

Mercury ☐

Metals Special Request: ☐

4 OZ JARS  
8 OZ JARS  
16 OZ JARS

3. TCLP ORGANICS

Volatiles ☐

Semi-Volatiles (Acid & Base/Neutral) ☐

Additional Specific Organics For TCLP: ☐

Pesticides ☐

Herbicides ☐

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) ☐

Mercury ☐

Additional Metals For TCLP: ☐

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): ☐

Reviewed By (HWMB): [Signature]

Date: 10/20/97

Received By (EPD Lab): MLB

Approved By (HWMB): [Signature]

Date: 10/30

Date (EPD Lab): 10/30/97

GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION

455 14th Street NW, Atlanta, GA 30318-7900  
(404) 206-5269

Hazardous Waste Management Program  
**LABORATORY REPORT**

TO:

Sample Collector: B PEIRCE

Sample ID : AB84436

Date Received: 10/30/97

Date Collected: 10/29/97

Time Received: 10:59

Time Collected: -0-

Reporting Date: 11/12/97

DNR Lab Reference: HW7372

Sample Site: ANTHOINE MACHINE WORKS HW7372

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
<b>anics EPA Method 8260 Soil</b>									
	1,1,1,2-Tetrachloroethane		8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,1-Trichloroethane	34509	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2,2-Tetrachloroethane	34519	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1,2-Trichloroethane	34514	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethane	34499	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloroethene	34504	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,1-Dichloropropene	77168	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichlorobenzene	77613	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,3-Trichloropropane	78490	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trichlorobenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2,4-Trimethylbenzene	34554	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromo-3-chloropropan	38487	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dibromoethane	79749	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichlorobenzene	34539	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,2-Dichloroethane	34534	8260	5	Not detected		ug/kg	SMA	11/04/97

Page: 1

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

<b>Laboratory Contacts:</b>	Inorganics:	Pat Sammons	Ext. 5239
	Metals :	Harjinder Ghuman	Ext. 5223
	Organics:	Danny Reed	Ext. 5252
	GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	2-Dichloropropane	34544	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3,5-Trimethylbenzene	77226	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichlorobenzene	34569	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,3-Dichloropropane	77173	8260	5	Not detected		ug/kg	SMA	11/04/97
	1,4-Dichlorobenzene	34574	8260	5	Not detected		ug/kg	SMA	11/04/97
	2,2-Dichloropropane	77170	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Butanone	75078	8260	100	Not detected		ug/kg	SMA	11/04/97
	2-Chloroethyl vinyl ether	34579	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Chlorotoluene	77225	8260	5	Not detected		ug/kg	SMA	11/04/97
	2-Hexanone	75166	8260	50	Not detected		ug/kg	SMA	11/04/97
	4-Chlorotoluene	77277	8260	5	Not detected		ug/kg	SMA	11/04/97
	4-Methyl-2-Pentanone	75169	8260	50	Not detected		ug/kg	SMA	11/04/97
	Acetone	75059	8260	100	Not detected		ug/kg	SMA	11/04/97
	Benzene	34237	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromobenzene	78491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromochloromethane	77297	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromodichloromethane	34330	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromofluorobenzene(Surrogate QC Std.)		8260	-0-	45.4		ug/kg	SMA	11/04/97
	Bromoform	34290	8260	5	Not detected		ug/kg	SMA	11/04/97
	Bromomethane	34416	8260	10	Not detected		ug/kg	SMA	11/04/97
	Carbon Disulfide	78544	8260	5	Not detected		ug/kg	SMA	11/04/97
	Carbon Tetrachloride	34299	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chlorobenzene	34304	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloroethane	34314	8260	10	Not detected		ug/kg	SMA	11/04/97
	Chloroform	34318	8260	5	Not detected		ug/kg	SMA	11/04/97
	Chloromethane	34421	8260	10	Not detected		ug/kg	SMA	11/04/97
	cis-1,2-Dichloroethene	77093	8260	5	Not detected		ug/kg	SMA	11/04/97
	cis-1,3-Dichloropropene	34702	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromochloromethane	34309	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dibromofluoromethane(Surrogate QC Std.)		8260	-0-	49.2		ug/kg	SMA	11/04/97
	Dibromomethane	78756	8260	5	Not detected		ug/kg	SMA	11/04/97
	Dichlorodifluoromethane	34334	8260	5	Not detected		ug/kg	SMA	11/04/97
	Ethylbenzene	34374	8260	5	Not detected		ug/kg	SMA	11/04/97
	Hexachlorobutadiene	39705	8260	5	Not detected		ug/kg	SMA	11/04/97
	Iodomethane	73121	8260	5	Not detected		ug/kg	SMA	11/04/97
	Isopropylbenzene	77223	8260	5	Not detected		ug/kg	SMA	11/04/97

Sample ID : AB84436

Page: 2

PARAMETER CODE: EPA  
ug/l : micrograms/liter  
mg/l : milligrams/liter  
MDL: method detection limit  
TIE: Tentatively identified/Estimated value  
Trace: Below quantitation limits  
USPEC: Greater than specification limits  
LSPEC: Lower than specification limits

**Laboratory Contacts:**

Inorganics:	Pat Sammons	Ext. 5239
Metals :	Harjinder Ghuman	Ext. 5223
Organics:	Danny Reed	Ext. 5252
GC Mass Spec:	Steve Bryan	Ext. 5260

LAB	ANALYTE	PARAMETER CODE	EPA METHOD	MDL	RESULT	NOTE	UNITS	ANALYST	ANALYSIS DATE
	Methylene Chloride	34426	8260	5	Not detected		ug/kg	SMA	11/04/97
	n-Butylbenzene	77342	8260	5	Not detected		ug/kg	SMA	11/04/97
	n-Propylbenzene	77224	8260	5	Not detected		ug/kg	SMA	11/04/97
	Naphthalene	34445	8260	5	Not detected		ug/kg	SMA	11/04/97
	o-Xylene	78362	8260	5	Not detected		ug/kg	SMA	11/04/97
	p,m-Xylene	45510	8260	5	Not detected		ug/kg	SMA	11/04/97
	p-Isopropyltoluene	77356	8260	5	Not detected		ug/kg	SMA	11/04/97
	sec-Butylbenzene	77350	8260	5	Not detected		ug/kg	SMA	11/04/97
	Styrene	75192	8260	5	Not detected		ug/kg	SMA	11/04/97
	tert-Butylbenzene	77353	8260	5	Not detected		ug/kg	SMA	11/04/97
	<u>Tetrachloroethene</u>	34478	8260	5	Not detected		ug/kg	SMA	11/04/97
	Toluene	34483	8260	5	Not detected		ug/kg	SMA	11/04/97
	Toluene-d8(Surrogate QC Std.)		8260	-0-	46.6		ug/kg	SMA	11/04/97
	trans-1,2-Dichloroethene	34549	8260	5	Not detected		ug/kg	SMA	11/04/97
	trans-1,3-Dichloropropene	34697	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichloroethene	34487	8260	5	Not detected		ug/kg	SMA	11/04/97
	Trichlorofluoromethane	34491	8260	5	Not detected		ug/kg	SMA	11/04/97
	Vinyl Acetate	78498	8260	50	Not detected		ug/kg	SMA	11/04/97
	Vinyl Chloride	34495	8260	2	Not detected		ug/kg	SMA	11/04/97

Sample comments :

*End of Report*

Sample ID : AB84436

Page: 3

PARAMETER CODE: EPA ug/l : micrograms/liter mg/l : milligrams/liter MDL: method detection limit TIE: Tentatively identified/Estimated value Trace: Below quantitation limits USPEC: Greater than specification limits LSPEC: Lower than specification limits	<b>Laboratory Contacts:</b>  Inorganics: Pat Sammons Ext. 5239 Metals : Harjinder Ghuman Ext. 5223 Organics: Danny Reed Ext. 5252 GC Mass Spec: Steve Bryan Ext. 5260
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## APPENDIX 3

# FROST ASSOCIATES

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88 Founders Village, Clinton, CT 06426  
(860) 669-5859 FAX (860) 669-5859

September 16, 1997

To: Environmental Protection Division  
205 Butler St., Floyd Towers East, Suite 1154  
Atlanta, GA 30334

Attn: James Ussery

Fr: Frost Associates  
P.O. Box 495  
Essex, Conn 06426

Tel: (203) 767-1254  
Fax: (203) 767-7069

Sub: Anthoine Machine Works  
3111 Railroad Street, East Valley, GA

CERCLIS:

Job: 05000.3000

Site Longitude: 83-53-09.3 83.885918  
Site Latitude : 32-33-04.8 32.551331

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

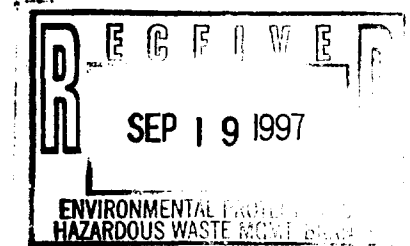
CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.



A method to solve for the area of a polygon is to take one-half the sum of the products obtained by multiplying each X-coordinate by the difference between the adjacent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and E. The formula can be expressed:

$$\text{Area} = 1/2 \{ X_a(Y_e - Y_b) + X_b(Y_a - Y_c) + X_c(Y_b - Y_d) + X_d(Y_c - Y_e) + X_e(Y_d - Y_a) \}$$

For each ring, the selected Block Groups will be inside, outside, or intersected by the ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

When a ring intersects a Block Group, the intersect points are solved and plotted at the points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to calculate the segment area, the half moon shape between the chord line and the ring, and the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

...The segment area is subtracted from the sub-polygon area to determine the area of the sub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then divided by the tract's total area to determine the percentage of area within the ring. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

On occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted screen pixels to the pixels within the polygon. A manual entry is allowed. Both the "paint" method and manual entry method override the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, and Block Group ID order that lie within, or partially within, the maximum ring. Each Block Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 population and house count extracted from the Census Bureau's 1990 STF-1A files.

The next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by "Units with individual well, Drilled, source of water"; "Units with individual well, Dug, source of water" and "Units with Other source of water".

For each ring, CENTRACTS then shows the Block Groups that are within that ring, the Block Group's total area in square miles, the partial area of the Block Group within that ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

The last section tallies the demographic data within each ring. The percentage of area for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined by subtracting the three mile data from the four mile, the two mile from the three mile, one from the two, etc... Population on private wells is calculated using the formula:  $((\text{Drilled} + \text{Dug Wells}) / \text{Households}) * \text{Population}$

Anthoine Machine Works  
3111 Railroad Street, East Valley, GA

No.	City	Block Group ID	Blk Grp People	House Holds	Public Water	Drilled Wells	Dug Wells	Other
1	Zenith	13079 0702	3 1021	358	35	298	42	0
2	Marshallville	13193 9801	1 889	327	245	66	28	0
3	Marshallville	13193 9801	2 1119	369	303	44	24	0
4	Fort Valley	13225 0402	1 1930	718	453	194	19	0
5	Fort Valley	13225 0402	2 1842	600	476	85	23	10
6	Fort Valley	13225 0404	1 4415	1258	1275	36	0	0
7	Fort Valley	13225 0404	2 1160	456	435	28	0	0
8	Fort Valley	13225 0404	3 132	49	4	24	4	0
9	Fort Valley	13225 0403011	2434	888	744	100	52	0
10	Fort Valley	13225 0403012	267	136	122	0	0	0
11	Fort Valley	13225 0403013	74	25	11	16	0	0
12	Fort Valley	13225 0403021	1773	728	702	45	0	0
===	=====	=====	=====	=====	=====	=====	=====	
	Totals:		17056	5912	4805	936	192	10

Anthoine Machine Works  
3111 Railroad Street, East Valley, GA

City	Census Tract ID	Tract People	House Count	Public Water	Drilled Wells	Dug Wells	Other Sources
Fort Valley	13225 0404 2	1160	456	435	28	0	0
Fort Valley	13225 0404 3	132	49	4	24	4	0
Fort Valley	13225 0403011	2434	888	744	100	52	0
Fort Valley	13225 0402 1	1930	718	453	194	19	0
Fort Valley	13225 0402 2	1842	600	476	85	23	10
Fort Valley	13225 0404 1	4415	1258	1275	36	0	0
Fort Valley	13225 0403012	267	136	122	0	0	0
Fort Valley	13225 0403013	74	25	11	16	0	0
Fort Valley	13225 0403021	1773	728	702	45	0	0
Sub Totals:		14027	4858	4222	528	98	10
Marshallville	13193 9801 1	889	327	245	66	28	0
Marshallville	13193 9801 2	1119	369	303	44	24	0
Sub Totals:		2008	696	548	110	52	0
Zenith	13079 0702 3	1021	358	35	298	42	0
Sub Totals:		1021	358	35	298	42	0

Anthoine Machine Works  
3111 Railroad Street, East Valley, GA

For Radius of 4 Mi., Circle Area = 50.265482

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
1	Zenith	13079 7023	54.974583	4.192962	7.63
2	Marshallville	13193 98011	32.482712	0.117840	0.36
3	Marshallville	13193 98012	44.204765	0.225304	0.51
4	Fort Valley	13225 4021	23.839167	9.292035	38.98
5	Fort Valley	13225 4022	25.240511	9.079605	35.97
6	Fort Valley	13225 403021	15.109613	6.578419	43.54
7	Fort Valley	13225 4042	3.236910	2.542618	78.55
8	Fort Valley	13225 4043	10.538867	0.960698	9.12
9	Fort Valley	13225 403011	11.290280	10.230000	90.61
10	Fort Valley	13225 403012	0.132098	0.132098	100.00
11	Fort Valley	13225 403013	0.533359	0.533359	100.00
12	Fort Valley	13225 4041	7.808229	6.380545	81.72
Totals:			229.391083	50.265484	

For Radius of 3 Mi., Circle Area = 28.274334

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
4	Fort Valley	13225 4021	23.839167	4.748510	19.92
5	Fort Valley	13225 4022	25.240511	5.463719	21.65
6	Fort Valley	13225 403021	15.109613	3.958167	26.20
7	Fort Valley	13225 4042	3.236910	1.237692	38.24
8	Fort Valley	13225 4043	10.538867	0.107113	1.02
9	Fort Valley	13225 403011	11.290280	7.139364	63.23
10	Fort Valley	13225 403012	0.132098	0.132098	100.00
11	Fort Valley	13225 403013	0.533359	0.533359	100.00
12	Fort Valley	13225 4041	7.808229	4.954313	63.45
Totals:			97.729027	28.274334	

For Radius of 2 Mi., Circle Area =12.566371

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
4	Fort Valley	13225 4021	23.839167	1.936309	8.12
5	Fort Valley	13225 4022	25.240511	2.574607	10.20
6	Fort Valley	13225 403021	15.109613	2.069138	13.69
7	Fort Valley	13225 4042	3.236910	0.272168	8.41
9	Fort Valley	13225 403011	11.290280	2.807369	24.87
10	Fort Valley	13225 403012	0.132098	0.132098	100.00
11	Fort Valley	13225 403013	0.533359	0.142068	26.64
12	Fort Valley	13225 4041	7.808229	2.632614	33.72
Totals:			87.190163	12.566371	

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For Radius of 1 Mi., Circle Area = 3.141593

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
4	Fort Valley	13225 4021	23.839167	0.525247	2.20
5	Fort Valley	13225 4022	25.240511	1.092645	4.33
6	Fort Valley	13225 403021	15.109613	0.658477	4.36
9	Fort Valley	13225 403011	11.290280	0.251101	2.22
10	Fort Valley	13225 403012	0.132098	0.106483	80.61
12	Fort Valley	13225 4041	7.808229	0.507641	6.50
Totals:			83.419899	3.141593	

For Radius of .5 Mi., Circle Area = 0.785398

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
4	Fort Valley	13225 4021	23.839167	0.094180	0.40
5	Fort Valley	13225 4022	25.240511	0.301942	1.20
6	Fort Valley	13225 403021	15.109613	0.149142	0.99
12	Fort Valley	13225 4041	7.808229	0.240134	3.08
Totals:			71.997520	0.785398	

For Radius of .25 Mi., Circle Area = 0.196350

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
4	Fort Valley	13225 4021	23.839167	0.000724	0.00
5	Fort Valley	13225 4022	25.240511	0.081808	0.32
6	Fort Valley	13225 403021	15.109613	0.004018	0.03
12	Fort Valley	13225 4041	7.808229	0.109799	1.41
Totals:			71.997520	0.196350	

===== Site Data =====

Population:	9351.00
Households:	3199.27
Drilled Wells:	309.19
Dug Wells:	66.59
Other Water Sources:	3.60

===== Partial (RING) data =====

---- Within Ring: 4 Mile(s) and 3 Mile(s) ----

Population:	2977.05
Households:	1040.08
Drilled Wells:	127.33
Dug Wells:	24.90
Other Water Sources:	1.43

\*\* Population On Private Wells: 435.73

---- Within Ring: 3 Mile(s) and 2 Mile(s) ----

Population:	3308.48
Households:	1114.02
Drilled Wells:	107.65
Dug Wells:	24.87
Other Water Sources:	1.14

\*\* Population On Private Wells: 393.55

---- Within Ring: 2 Mile(s) and 1 Mile(s) ----

Population:	2309.55
Households:	760.48
Drilled Wells:	59.73
Dug Wells:	14.25
Other Water Sources:	0.59

\*\* Population On Private Wells: 224.67

---- Within Ring: 1 Mile(s) and .5 Mile(s) ----

Population:	572.98
Households:	228.80
Drilled Wells:	11.15
Dug Wells:	2.22
Other Water Sources:	0.31

\*\* Population On Private Wells: 33.47

Anthoine Machine Works  
3111 Railroad Street, East Valley, GA

---- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	114.36
Households:	36.04
Drilled Wells:	2.53
Dug Wells:	0.28
Other Water Sources:	0.09

\*\* Population On Private Wells: 8.92

---- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	68.58
Households:	19.85
Drilled Wells:	0.80
Dug Wells:	0.08
Other Water Sources:	0.03

\*\* Population On Private Wells: 3.02

\*\* Total Population On Private Wells: 1099.36

## APPENDIX 4

**GEORGIA WELLHEAD PROTECTION PLAN**

*for*

**CITY of FORT VALLEY**

**PEACH COUNTY**

**Permit # 2250001**

**Expiration Date: July 27, 2001**

**Field Survey By:** Jim Guentert, Sue Grunwald  
and Sandra Jo Robertson

**Date:** 09/23-27/96

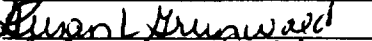
**Prepared By:** Sandra Jo Robertson

**Date:** 10/25/96

**Checked By:** 

Jim Guentert

**Date:** 11/25/96

**Checked By:** 

Sue Grunwald

**Date:** 11/5/96

**Approved By:** 

Roger Carter

**Date:** 12/11/96

**Distribution:** 2 GGS Files; 1 WRMB; 1 Local Government

## ***SPECIAL NOTE***

At the time this Wellhead Protection Plan (WHPP) was prepared there had been detections in two wells of Perchloroethylene (PCE). Although no PCE has been detected in the treated drinking water, the Fort Valley Water Commission has expressed concern to the Environmental Protection Division and has requested the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources to assist in evaluating the situation. This WHPP, scheduled for preparation upon repermitting of the water system wells in the year 2002, was conducted earlier to assist in this effort.

A separate document, a memorandum dated December 11, 1996 and prepared by the Geologic Survey Branch of EPD, specifically evaluates potential sources of PCE. That memorandum is titled "Preliminary Identification of Potential Sources of Perchloroethylene in Fort Valley Municipal Wells 1 and 2."

## ***SYSTEM INFORMATION***

<i>Water System:</i>	City of Fort Valley
<i>County:</i>	Peach
<i>System ID. No.:</i>	2250001
<i>Expiration Date:</i>	7/27/2001
<i>Number of Wells:</i>	8 (3 abandoned)
<i>System Type:</i>	municipal
<i>Population:</i>	10,500
<i>Class:</i>	2
<i>Region:</i>	2
<i>Province:</i>	Coastal Plain
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Significant Recharge Area: *</i>	yes
<i>Pollution Susceptibility: **</i>	higher susceptibility
<i>Supplier:</i>	City of Fort Valley Water System
<i>Contact:</i>	Mr. Glen Taylor
<i>Title:</i>	General Manager
<i>Address:</i>	City of Fort Valley Utility Commission P.O. Box 1529 Fort Valley, Georgia 31030-1529
<i>Phone No.:</i>	912-825-7701
<i>Fax No.:</i>	912-825-3177
<i>WHPA Delineated:</i>	09/20/96
<i>PPSI Conducted:</i>	09/23-27/96
<i>Alternate Water Source:</i>	The City of Fort Valley has five connected wells. In the event one of the wells can no longer be used the other wells will supply the communities water needs until the well is operational or a new water source can be found.

\*Hydrologic Atlas 18, Most Significant Ground-Water Recharge Areas of Georgia, Georgia Department of Natural Resources, Atlanta, 1989.

\*\*Hydrologic Atlas 20, Ground-Water Pollution Susceptibility Map of Georgia, Georgia Department of Natural Resources, Atlanta, 1992.

## ***Part 1: DELINEATING THE WELLHEAD PROTECTION AREA***

see attached maps

### **Well #1**

(McLean #1)

<i>Location description:</i>	Located on Central Avenue behind the water treatment plant near the intersection of Railroad St.
<i>Longitude:</i>	83° 53' 10.3"W
<i>Latitude:</i>	32° 33' 09.5"N
<i>Quadrangle:</i>	Fort Valley West
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Delineation Method:</i>	volumetric flow equation
<i>Pumping Rate:</i>	1000 gpm
<i>Cement Pad:</i>	present
<i>Well House:</i>	present (locked)
<i>Fence:</i>	present
<i>Locked Gate:</i>	present
<i>Control Zone:</i>	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1055 foot radius

### **Well #2**

(Evans Well)

<i>Location description:</i>	Located on N. Camellia Boulevard (Georgia Route 49) near the intersection of Miller St. and the railroad crossing.
<i>Longitude:</i>	83° 53' 18.5"W
<i>Latitude:</i>	32° 33' 02.3"N
<i>Quadrangle:</i>	Fort Valley West
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Delineation Method:</i>	volumetric flow equation
<i>Pumping Rate:</i>	1000 gpm
<i>Cement Pad:</i>	present
<i>Well House:</i>	present (locked)
<i>Fence:</i>	not present
<i>Locked Gate:</i>	not present
<i>Control Zone:</i>	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	985 foot radius

### **Well #3**

(Jones #1)

<i>Location description:</i>	Located at the intersection of Jones Alley and State College Drive next to the water treatment plant and across the street from Fort Valley State College
<i>Longitude:</i>	83° 53' 50.6"W
<i>Latitude:</i>	32° 32' 24.3"N
<i>Quadrangle:</i>	Fort Valley West
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Delineation Method:</i>	volumetric flow equation
<i>Pumping Rate:</i>	1000 gpm
<i>Cement Pad:</i>	present
<i>Well House:</i>	not present
<i>Fence:</i>	present
<i>Locked Gate:</i>	present
<i>Control Zone:</i>	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1100 foot radius

### **Well #4**

(Jones #2)

<i>Location description:</i>	Located on Charlevoix St. near the Jones Alley water treatment plant
<i>Longitude:</i>	83° 53' 49.7"W
<i>Latitude:</i>	32° 32' 29.5"N
<i>Quadrangle:</i>	Fort Valley West
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Delineation Method:</i>	volumetric flow equation
<i>Pumping Rate:</i>	1350 gpm
<i>Cement Pad:</i>	present
<i>Well House:</i>	not present
<i>Fence:</i>	present
<i>Locked Gate:</i>	present
<i>Control Zone:</i>	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1180 foot radius

## **Well #5**

### **(Courthouse Well)**

<i>Location description:</i>	Located on Central Avenue next to the Courthouse
<i>Longitude:</i>	83° 53' 19.5"W
<i>Latitude:</i>	32° 33' 10.6"N
<i>Quadrangle:</i>	Fort Valley West
<i>Aquifer Type:</i>	unconfined coastal plain
<i>Delineation Method:</i>	volumetric flow equation
<i>Pumping Rate:</i>	1500 gpm
<i>Cement Pad:</i>	present
<i>Well House:</i>	present (locked)
<i>Fence:</i>	not present
<i>Locked Gate:</i>	not present
<i>Control Zone:</i>	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1490 foot radius

## **Kell Well**

<i>Location description:</i>	Located on Railroad St. near the Camellia Boulevard intersection
<i>Longitude:</i>	83° 53' 15.0"W
<i>Latitude:</i>	32° 33' 05.5"N
<i>Quadrangle:</i>	Fort Valley West
<i>Status:</i>	plugged and abandoned, according to conversation with John Harmon (wellhead has been removed)

## **Nick Well**

<i>Location description:</i>	Located on Central Avenue next to the McLean water treatment plant within a brick storage building.
<i>Longitude:</i>	83° 53' 12.3"W
<i>Latitude:</i>	32° 33' 09.1"N
<i>Quadrangle:</i>	Fort Valley West
<i>Status:</i>	plugged and abandoned, according to conversation with John Harmon

## **Old City Well**

<i>Location description:</i>	Located next to Well #1 at the McLean water treatment plant.
<i>Longitude:</i>	83° 53' 09.9"W
<i>Latitude:</i>	32° 33' 09.6"N
<i>Quadrangle:</i>	Fort Valley West
<i>Status:</i>	plugged and abandoned, according to conversation with John Harmon (the wellhead has been removed and the well paved over with asphalt)

## PART 2: POTENTIAL POLLUTION SOURCE (PPS) INVENTORY

(see APPENDIX A for reference of PPS Codes)

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
3.	T01	access and secondary roads
4.	S05	sewer lines
5.	S08	water treatment facility (McLean water treatment plant) 83° 53' 10.9"W 32° 33' 09.8"N Address: City of Fort Valley Utility Commission P.O. Box 1529 Fort Valley, Georgia 31030-1529
6.	O08	vehicle parking (located through out the wellhead protection areas)
7.	T03	major highways and railroads / Norfolk Southern railroad line Address: Norfolk Southern railroad line Chief Dispatcher Atlanta, GA 404-529-1347 D.M. Cochran Track Supervisor 404-529-1933
8.	T05	railroad depot and loading platform grease, waste oil, and batteries 83° 53' 08.5"W 32° 33' 07.2"N Address: Norfolk Southern Corp - Southern Railway System Maintenance of Way 200 E. Main St. Fort Valley, GA 912-825-7026 Chief Dispatcher Atlanta, GA 404-529-1347 D.M. Cochran Track Supervisor 404-529-1933
9.	I10	storm water runoff
10.	I13	test well / monitoring well (25 ft. deep, encountered kaolin lens) The well was drilled by the State of Georgia 83° 53' 09.8"W 32° 33' 09.4"N
11.	W06	garbage transfer stations /dumpsters (located throughout the wellhead protection area) BFI Waste Systems 4291 Interstate Dr. Macon, Ga 912-474-5972
12.	B23	storage of paint, fuels, and oils (located in abandoned Nix well house) 83° 53' 12.3"W 32° 33' 09.1"N Address: City of Fort Valley Utility Commission P.O. Box 1529 Fort Valley, Georgia 31030-1529

PPS #	PPS Code	Description
13.	T03	major highway Georgia Route 49
14.	T03	major highway Georgia Route 96
15.	T03	major highway U.S. Route 341
16.	B02	auto repair / body shop automobile oils and fluids used oils, fluids, and filters are recycled with EnviroSafety 83° 53' 15.0"W 32° 33' 08.5"N Address: Peach Mac 200 S. Camellia Blvd. Fort Valley, Georgia 31030 912-825-8628
17.	B13	laundromat / dry cleaner 150 gallon trichlorethylene stored within the building filters recycled with EnviroSafety 83° 53' 15.5"W 32° 33' 08.0"N Address: Fabra Care Cleaners 204 S. Camellia Blvd. Fort Valley, Georgia 31030 912-825-8211
18.	B05	car wash 83° 53' 17.2"W 32° 33' 07.6"N Address: Splish Splash Car Wash 208 S. Camellia Blvd. Fort Valley, Georgia 31030 no phone
19.	B23	tire and oil change used oils are recycled 83° 53' 07.1"W 32° 33' 17.2"N Address: Valley Tire Service 106 N. Camellia Fort Valley, Georgia 31030 912-827-0029
20.	B23	marine engine repair waste oil, solvents, paint, fuel 83° 53' 10.5"W 32° 33' 19.4"N Address: Mark's Marine Engine Service Route 49 N. Fort Valley, Georgia 31030 912-822-9929

PPS #	PPS Code	Description
21.	B23	auto detailing / car wash / window tinting (previously Butler Chevrolet new and used car sales lot) 83° 53' 09.0"W 32° 33' 19.2"N Mose's Car Customs 121 N Camellia Blvd. Fort Valley, Georgia 31030 912-825-0152
22.	F04	underground fuel storage tanks / diesel 83° 53' 12.8"W 32° 33' 16.3"N Address: Bell South 110 Anderson Ave. Fort Valley, Georgia 31030 912-780-2800
23.	F05	abandoned underground fuel storage tanks 83° 53' 18.0"W 32° 33' 15.4"N Address: Fort Valley Fire Station 1 W. Church St. Fort Valley, Georgia 31030 912-825-5190
24.	B10 F04	gasoline station / service bay / engine repair / oil and fluid change underground fuel storage tank 83° 53' 22.3"W 32° 32' 55.5"N Address: C&M Auto Samuel Jones St. Fort Valley, Georgia 31030
25.	B10 F04	gasoline station / service bay / oil and fluid change underground fuel storage tank 83° 53' 22.0"W 32° 32' 56.9"N Address: Walker Union 76 Service Station 525 Railroad St. Fort Valley, Georgia 31030 912-825-3239
26.	F04	underground fuel storage tank 83° 53' 25.1"W 32° 32' 57.7"N Address: Bobby's Minit Mart Grocery Fina Gas Station 702 Orange St. Fort Valley, Georgia 31030 912-825-5249
27.	B14	machine shop Safety clean wash for machine parts 83° 53' 09.3"W 32° 33' 04.8"N Address: Anthoine Machine Works 311 Railroad St. Fort Valley, Georgia 31030 912-825-5613

PPS #	PPS Code	Description
28.	B02	auto repair / fuel and oil change motor oils / fluids / waste oil and waste fluids 83° 53' 04.0"W 32° 33' 07.8"N Address: Giles Garage 303 Martin Luther King Jr. St. Fort Valley, Georgia 31030 912-825-3779
29.	F05 B05 B23	abandoned underground fuel storage tanks car wash oil change / window tinting and detail 83° 53' 04.7" 32° 33' 08.4" Address: Auto Shade One Stop Auto Service 301 Martin Luther King Jr. St. Fort Valley, Georgia 31030 912-825-1666
30.	B23	tire / motor oil / fluid change used oils and fluids are recycled 83° 53' 02.7"W 32° 33' 04.6"N Address: Holcomb Tire Service 306 Martin Luther King Dr. Fort Valley, Georgia 31030 912-825-5256
31.	A06	fertilizer storage liquid nitrogen storage tanks (have spill containment systems) 83° 53' 23.7"W 32° 33' 00.7"N Address: Fort Valley Oil Company Fertilizers and Lime 304 S. Camellia Blvd. Fort Valley, Georgia 31030 912-825-5531
32.	A06	fertilizer storage 83° 53' 20.3"W 32° 33' 01.6"N Address: Fort Valley Oil Company Fertilizers and Lime 304 S. Camellia Blvd. Fort Valley, Georgia 31030 912-825-5531
33.	F01	above ground fuel storage tanks diesel / hydraulic fluid / engine oil ( has spill containment system) 83° 53' 22.0"W 32° 33' 02.7"N Address: Fort Valley Oil Company Fertilizers and Lime 304 S. Camellia Blvd. Fort Valley, Georgia 31030 912-825-5531

<b>PPS #</b>	<b>PPS Code</b>	<b>Description</b>
34.	S08	water treatment facility (Jones Alley water treatment plant) 83° 53' 51.5"W 32° 32' 24.5"N Address: City of Fort Valley Utility Commission P.O. Box 1529 Fort Valley, Georgia 31030-1529
35.	F04	underground fuel storage tanks 83° 53' 55.9"W 32° 32' 19.4"N Address: Highway Haven Food Store #2 Community Plaza Chevron gas station 1200 State College Drive Fort Valley, Georgia 31030 912-825-9085
36.	B13	laundromat / dry cleaning 83° 53' 56.0"W 32° 32' 19.2"N Address: Coin-Op Laundry / Dry Cleaning State College Drive Fort Valley, Georgia 31030
37.	B23	auto paint and body shop paints / solvents 83° 53' 56.1"W 32° 32' 18.9"N Address: Appling's Paint and Body Shop 1206 State College Drive Fort Valley, Georgia 31030 912-825-1220
38.	S01	domestic septic system 83° 53' 52.0"W 32° 32' 23.4"N Address: 405 Jones Alley Fort Valley, Georgia 31030
39.	I02	domestic wells
40.	H05	hazardous waste NPL location registered NPL clean-up site. 83° 53' 11.7"W 32° 33' 02.8"N
41.	B14	machine shop (historical) There is only a vacant lot at this location now. Approximately 50 years ago Eberhard machine shop was located here. 83° 53' 09.0"W 32° 33' 05.4"N
42.	B23	knitting mill (historical) The knitting mill was destroyed by a tornado in 1975. 83° 53' 10.0"W 32° 33' 07.8"N
43.	B23	power generating plant (historical) A power generating plant was once located at the present day McLean water treatment plant. 83° 53' 10.3"W 32° 33' 09.5"N

PPS #	PPS Code	Description
44.	B13	dry cleaners (historical) A dry cleaners was once located at the present day Splish Splash car wash. 83° 53' 17.2"W 32° 33' 07.6"N
45.	B17	printers (historical) A print shop was once located here. The building is abandoned. 83° 53' 13.9"W 32° 33' 08.0"N
46.	B23	cotton storage warehouse / rail transfer area (historical) Trains passed through this area where a warehouse that stored cotton was once located. 83° 53' 13.0"W 32° 33' 07.4"N
47.	B23	cotton seed oil mill (historical) 83° 53' 12.7"W 32° 33' 06.5"N
48.	B13	dry cleaners (historical) A dry cleaners was once located in the alley approximately 50 feet north of well #1 83° 53' 10.0"W 32° 33' 10.1"N
49.	B13	dry cleaners (historical) Located on GA Route 49, the building now houses a law office. 83° 53' 12.1"W 32° 33' 13.0"N
50.	B13	dry cleaners (historical) Located on Church approximately 50 feet east of PPS #49 83° 53' 12.5"W 32° 33' 13.0"N
51.	B23	gasoline station (historical) No evidence of the gasoline station today. Formerly located at the corner of Central Avenue and GA Route 49. 83° 53' 14.4"W 32° 33' 09.0"N
52.	B23	gasoline station (historical) No evidence of the gasoline station today. Formerly located at the corner of College Street and GA Route 49. 83° 53' 17.1"W 32° 33' 05.3"N

**Well #1*****Control Zone***

15 foot radius

PPS #	PPS Code	Description
10.	I13	test well / monitoring well

***Inner-Management Zone:***

250 foot radius

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
3.	T01	access and secondary roads
4.	S05	sewer lines
5.	S08	water treatment facility (McLean water treatment plant)
6.	O08	vehicle parking
7.	T03	major highways and railroads / Norfolk Southern railroad
8.	T05	railroad depot and loading platform
9.	I10	storm water runoff
11.	W06	garbage transfer stations / dumpsters
12.	B23	storage of fuels, paints, and oils
15.	T03	major highway / U.S. Route 341
43.	B23	power generating plant (historical, no longer present)
48.	B13	dry cleaners (historical, no longer present)

***Outer-Management Zone***

1055 foot radius

Note: PPS's 1, 2, 3, 4, 6, 7, 8, 9, 11 and 15 are also found in the Outer-Management Zone.

PPS #	PPS Code	Description
13.	T03	major highway Georgia Route 49
14.	T03	major highway Georgia Route 96
16.	B02	auto repair / body shop
17.	B13	laundromat / dry cleaners
18.	B05	car wash
19.	B23	tire and oil change
20.	B23	marine engine repair
21.	B23	auto detailing / car wash / window tinting
22.	F04	underground fuel storage tanks / diesel
23.	F05	abandoned underground fuel storage tanks
27.	B14	machine shop
28.	B02	auto repair / fuel and oil change
29.	F05	abandoned underground fuel storage tanks
	B05	car wash
	B23	oil change / window tinting and detail
30.	B23	tire / motor oil / fluid change
39.	I02	domestic wells

## **Well #1** (continued)

### ***Outer-Management Zone continued***

1055 foot radius

PPS #	PPS Code	Description
40.	H05	hazardous waste NPL site (former Woolfolk Chemical Site)
41.	B14	machine shop (historical, no longer present)
42.	B23	knitting mill (historical, no longer present)
44.	B13	dry cleaners (historical, no longer present)
45.	B17	printers (historical, currently an unoccupied building)
46.	B23	cotton storage warehouse / rail transfer area (historical, no longer present)
47.	B23	cotton seed oil mill (historical, no longer present)
49.	B13	dry cleaners (historical, no longer present)
50.	B13	dry cleaners (historical, no longer present)
51.	B23	gasoline station (historical, no longer present)
52.	B23	gasoline station (historical, no longer present)

## **Well #2**

### ***Control Zone***

15 foot radius

No Potential Pollution Sources

### ***Inner-Management Zone***

250 foot radius

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
4.	S05	sewer lines
6.	O08	vehicle parking
7.	T03	major highways and railroads / Norfolk Southern railroad
9.	I10	storm water runoff
13.	T03	major highway Georgia Route 49
42.	B23	knitting mill (historical, no longer present)

**Well #2** (continued)

***Outer-Management Zone continued***

985 foot radius

Note: PPS's 1, 2, 4, 6, 7, 9, and 13 are also found in the Outer-Management Zone.

PPS #	PPS Code	Description
3.	T01	access and secondary roads
5.	S08	water treatment facility (McLean water treatment plant)
8.	T05	railroad depot and loading platform
10.	I13	test well / monitoring well
11.	W06	garbage transfer stations / dumpsters
12.	B23	storage of paint, fuels, and oils
16.	B02	auto repair / body shop
17.	B13	laundromat / dry cleaner
18.	B05	car wash
24.	B10	gasoline station / service bay / engine repair / oil change
	F04	underground fuel storage tank
25.	B10	gasoline station / service bay / oil change
	F04	underground fuel storage tank
26.	F04	underground fuel storage tank
27.	B14	machine shop
31.	A06	fertilizer storage / liquid nitrogen storage tanks
32.	A06	fertilizer storage
33.	F01	above ground fuel storage tanks
39.	I02	domestic wells
40.	H05	hazardous waste NPL site
41.	B14	machine shop (historical, no longer present)
42.	B23	knitting mill (historical, no longer present)
43.	B23	power generating plant (historical, no longer present)
44.	B13	dry cleaners (historical, no longer present)
45.	B17	printers (historical, currently an unoccupied building)
46.	B23	cotton storage warehouse / rail transfer area (historical, no longer present)
47.	B23	cotton seed oil mill (historical, no longer present)
51.	B23	gasoline station (historical, no longer present)
52.	B23	gasoline station (historical, no longer present)

### **Well #3**

#### ***Control Zone***

15 foot radius

No Potential Pollution Sources

#### ***Inner-Management Zone***

250 foot radius

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
3.	T01	access and secondary roads
4.	S05	sewer lines
6.	O08	vehicle parking
11.	W06	garbage transfer stations / dumpsters
34.	S08	water treatment facility (Jones Alley water treatment plant)
38.	S01	domestic septic system

#### ***Outer-Management Zone***

1100 foot radius

Note: PPS's 1, 2, 3, 4, 6, and 11 are also found in the Outer-Management Zone.

PPS #	PPS Code	Description
7.	T03	major highways and railroads / Norfolk Southern railroad
35.	F04	underground fuel storage tanks
36.	B13	laundromat / dry cleaning
37.	B23	auto paint and body shop
39.	I02	domestic wells

### **Well #4**

#### ***Control Zone***

15 foot radius

No Potential Pollution Sources

#### ***Inner-Management Zone***

250 foot radius

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
3.	T01	access and secondary roads
4.	S05	sewer lines
6.	O08	vehicle parking
11.	W06	garbage transfer stations / dumpsters

#### ***Outer-Management Zone***

1180 foot radius

Note: PPS's 1, 2, 3, 4, 6, and 11 are also found in the Outer-Management Zone.

PPS #	PPS Code	Description
7.	T03	major highways and railroads / Norfolk Southern railroad
34.	S08	water treatment facility (Jones Alley water treatment plant)
35.	F04	underground fuel storage tanks
36.	B13	laundromat / dry cleaning
37.	B23	auto paint and body shop
38.	S01	domestic septic system
39.	I02	domestic wells

## **Well #5**

### ***Control Zone***

15 foot radius

No Potential Pollution Sources

### ***Inner-Management Zone***

250 foot radius

PPS #	PPS Code	Description
1.	O07	utility poles
2.	O04	electrical transformers
3.	T01	access and secondary roads
4.	S05	sewer lines
6.	O08	vehicle parking
9.	I10	storm water runoff
11.	W06	garbage transfer stations / dumpsters

### ***Outer-Management Zone***

1490 foot radius

**Note:** PPS's 1, 2, 3, 4, 6, 9 and 11 are also found in the Outer-Management Zone.

PPS #	PPS Code	Description
5.	S08	water treatment facility (McLean)
7.	T03	major highways and railroads
8.	T05	railroad depot and loading platform
10.	I13	test well / monitoring well
11.	W06	garbage transfer stations / dumpsters
12.	B23	storage of paint, fuels, and oils
13.	T03	major highway Georgia Route 49
15.	T03	major highway U.S. Route 341
16.	B02	auto repair / body shop
17.	B13	laundromat / dry cleaner
18.	B05	car wash
19.	B23	tire and oil change
20.	B23	marine engine repair
21.	B23	auto detailing / car wash / window tinting
22.	F04	underground fuel storage tanks / diesel
23.	F05	abandoned underground fuel storage tanks
24.	B10	gasoline station / service bay / engine repair / oil change
	F04	underground fuel storage tank
25.	B10	gasoline station / service bay / oil change
	F04	underground fuel storage tank
26.	F04	underground fuel storage tank
27.	B14	machine shop
28.	B02	auto repair / fuel and oil change

**Well #5** (continued)

***Outer-Management Zone continued***

PPS #	PPS Code	Description
29.	F05	abandoned underground fuel storage tanks
	B05	car wash
	B23	oil change / window tinting and detail
30.	B23	tire / motor oil / fluid change
31.	A06	fertilizer storage / liquid nitrogen storage tanks
32.	A06	fertilizer storage
33.	F01	above ground fuel storage tanks
39.	I02	domestic wells
40.	H05	hazardous waste NPL site
41.	B14	machine shop (historical, no longer present)
42.	B23	knitting mill (historical, no longer present)
43.	B23	power generating plant (historical, no longer present)
44.	B13	dry cleaners (historical, no longer present))
45.	B17	printers (historical, currently an unoccupied building)
46.	B23	cotton storage warehouse / rail transfer area (historical, no longer present)
47.	B23	cotton seed oil mill (historical, no longer present)
48.	B13	dry cleaners (historical, no longer present)
49.	B13	dry cleaners (historical, no longer present)
50.	B13	dry cleaners (historical, no longer present)
51.	B23	gasoline station (historical, no longer present)
52.	B23	gasoline station (historical, no longer present)

### ***Part 3: MANAGEMENT PLAN***

#### **Local Wellhead Protection Ordinance**

No

#### **Responsibilities of the Georgia Environmental Protection Division**

Within the Inner- and Outer-Management Zones EPD shall :

- not issue any new permits for municipal solid waste, industrial waste and construction/demolition waste landfills;
- not issue any new permits for the land disposal of hazardous wastes;
- require all new facilities permitted to handle, treat, store or dispose of hazardous waste or hazardous materials perform such operations on an impermeable pad having a spill and leak collection system;
- require all new agricultural waste impoundments have an impermeable synthetic liner;
- not issue any new permits for land application of waste water or sludge;
- not issue any new permits for underground injection wells;
- not issue permits for any new quarries or underground mines unless a hydrogeological investigation is completed;
- require all new underground storage tanks meet the highest standards applicable under the UST Act;
- require all new waste water treatment basins to have an impermeable synthetic liner.

#### **Recommendations to Local Governments from the Georgia Environmental Protection Division (EPD)**

EPD recommends that the local governments develop and adopt a local Wellhead Protection Ordinance.

PPS #1.            PPS code O07    utility poles

The City of Fort Valley should be aware that telephone and utility poles are treated with coal tar creosote or other wood preservatives.

PPS #2.            PPS code O04    electrical transformers

The City of Fort Valley should periodically check electrical transformers for cracks and leaks in the event of accidental or storm damage. Damaged transformers should be reported to the local utility provider.

PPS #3.            PPS code T01    access and secondary roads

The City of Fort Valley should report all hazardous waste and petroleum product spills or releases occurring within the wellhead protection area to the Department of Natural Resources at 1-800-241-4133.

PPS #4.            PPS code S05    sewer lines

The City of Fort Valley should properly maintain sewer lines and repair all sewer line breaks and leaks. In the event of a sewer line break or leak The City of Fort Valley should report the incident to the Georgia Department of Natural Resources, Water Protection Branch, Municipal Permitting Program, 4244 International Parkway, Suite 110, Atlanta, Georgia 30354, (404) 362-2680.

PPS #5.            PPS code S08    water treatment facility (McLean water treatment plant)

The City of Fort Valley should operate the water treatment facility in accordance with permit conditions and report problems to the Georgia Environmental Protection Division, Water Resources Management Branch, Drinking Water Permitting Program, 205 Butler St. SE, Floyd Tower East, Suite 1358, Atlanta, Georgia 30334, (404) 656-5660.

**Recommendations to Local Governments from the Georgia EPD continued**

PPS #6. PPS code O08 vehicle parking

The City of Fort Valley should recommend residents and business owners restrict vehicle parking to designated paved areas where available.

PPS #7. PPS code T03 major highways and railroads / Norfolk Southern railroad

The City of Fort Valley should report all hazardous waste or petroleum product spills or releases occurring within the wellhead protection area to the Department of Natural Resources at 1-800-241-4133.

PPS #8. PPS code T05 railroad depot and loading platform

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #9. PPS code I10 storm water runoff

The City of Fort Valley should be aware that storm water runoff from parking areas may contain volatile organic compounds. Storm water runoff from residential areas may contain pesticides and fertilizers.

PPS #10. PPS code I13 test well / monitoring well

The City of Fort Valley should require the monitoring well be properly secured and maintained. After the monitoring well is abandoned the City of Fort Valley should require the well be properly grouted and plugged according to the specifications of Circular 13 Grouting and Plugging of Domestic Water Wells in Georgia, available through the Georgia Geologic Survey Publications Office (404) 657-6127.

PPS #11. PPS code W06 garbage transfer station / dumpsters

Garbage transfer stations are considered to be solid waste transfer stations. The City of Fort Valley should recommend businesses properly dispose of solid wastes. For more information contact the Solid Waste Management Program (404) 362-2692.

PPS #12. PPS code B23 storage for fuels, paint, and oils

The City of Fort Valley should use best management practices in the operation of their business. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #13. PPS code T03 major highways and railroads / Georgia Route 49

The City of Fort Valley should report all hazardous waste or petroleum product spills or releases occurring within the wellhead protection area to the Department of Natural Resources at 1-800-241-4133.

PPS #14. PPS code T03 major highways and railroads / Georgia Route 96

The City of Fort Valley should report all hazardous waste or petroleum product spills or releases occurring within the wellhead protection area to the Department of Natural Resources at 1-800-241-4133.

**Recommendations to Local Governments from the Georgia EPD continued**

PPS #15.        PPS code T03    major highways and railroads / Georgia Route 341

The City of Fort Valley should report all hazardous waste or petroleum product spills or releases occurring within the wellhead protection area to the Department of Natural Resources at 1-800-241-4133.

PPS #16.        PPS code B02    auto repair / body shop

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #17.        PPS code B13    laundromat / dry cleaner

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Hazardous materials should be properly disposed of. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

PPS #18.        PPS code B05    car wash

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #19.        PPS code B23    tire and oil change

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #20.        PPS code B23    marine engine repair

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #21.        PPS code B23    auto detailing / car wash / window tinting

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

**Recommendations to Local Governments from the Georgia EPD continued**

PPS #22.            PPS code F04    underground fuel storage tanks / diesel

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

PPS #23.            PPS code F05    abandoned underground fuel storage tank

The City of Fort Valley should recommend owners of underground storage tanks adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15- .11 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

PPS #24.            PPS code B10    gasoline station / service bay / engine repair / oil and fluid change

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS code F04    underground fuel storage tank

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

PPS #25.            PPS code B10    gasoline station / service bay / oil and fluid change

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS code F04    underground fuel storage tank

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

**Recommendations to Local Governments from the Georgia EPD continued**

PPS #26.        PPS code F04    underground fuel storage tank

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

PPS #27.        PPS code B14    machine shop

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Hazardous materials should be properly disposed of. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

PPS #28.        PPS code B02    auto repair / fuel and oil change

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #29.        PPS code F05    abandoned underground fuel storage tanks

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

PPS code B05    car wash

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS code B23    oil change / window tinting and detail

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

PPS #30.        PPS code B23    tire / motor oil / fluid change

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils and fluids should be properly disposed of. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Drive, Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

**Recommendations to Local Governments from the Georgia EPD continued**

**PPS #31. PPS code A06 fertilizer storage**

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Liquid fertilizer should have a spill containment system. Spills should be reported to the Department of Natural Resources at 1-800-241-4133. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

**PPS #32. PPS code A06 fertilizer storage**

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

**PPS #33. PPS code F01 above ground fuel storage tank**

The City of Fort Valley should recommend businesses have a spill containment system large enough to contain the entire volume of material. Petroleum product spills or releases should be reported to the Department of Natural Resources at 1-800-241-4133. For more information concerning above ground fuel storage tanks contact the Georgia Office of Commissioner of Insurance, State Fire Marshall, Hazardous Materials, (404) 656-9798.

**PPS #34. PPS code S08 water treatment facility (Jones Alley)**

The City of Fort Valley should operate the water treatment facility in accordance with permit conditions and report problems to the Georgia Environmental Protection Division, Water Resources Management Branch, Drinking Water Permitting Program, 205 Butler St. SE, Floyd Tower East, Suite 1358, Atlanta, Georgia 30334, (404) 656-5660.

**PPS #35. PPS code F04 underground fuel storage tanks**

The City of Fort Valley should recommend business owners adhere to the Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-15 Underground Storage Tank Management. Questions concerning underground storage tank rules should be addressed to the Georgia Department of Natural Resources Environmental Protection Division Underground Storage Tank Program (404) 362-2687.

**PPS #36. PPS code B13 laundromat / dry cleaning**

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Hazardous materials should be properly disposed of. For more information contact the Georgia Environmental Protection Division, Commercial Industrial Unit, (404) 362-4511.

**PPS #37. PPS code B23 auto paint and body shop**

The City of Fort Valley should recommend businesses use best management practices in the operation of their business. Used oils, fluids, and paints should be properly disposed. A list of educational materials on water quality issues can be obtained from the Georgia Environmental Protection Division, Water Quality Management Program, 7 Martin Luther King Jr. Dr., Suite 643, Atlanta, Georgia 30334, (404) 656-4934.

**Recommendations to Local Governments from the Georgia EPD continued**

PPS #38. PPS code S01 domestic septic system

The City of Fort Valley should recommend home owners properly operate and maintain their septic system. Contact the Peach County Health Department for more information concerning proper septic tank operation and maintenance.

PPS #39. PPS code I02 domestic wells

The City of Fort Valley should recommend property owners protect their own wells from pollutants. Well owners should periodically test for water quality. If problems are identified by the water test, contact a water treatment specialist for recommendations. For more information contact the Georgia Cooperative Extension Service Branch office in Peach County.

The City of Fort Valley should recommend property owners properly grout and plug abandoned wells according to the specifications of Circular 13 Grouting and Plugging of Domestic Water Wells in Georgia, available through the Georgia Geologic Survey Publications Office (404) 657-6127. For more information contact the Department of Natural Resources, Georgia Geologic Survey, 19 Martin Luther King Jr. Dr. SW, Atlanta, Georgia, 30334 (404) 656-3214.

PPS #40. PPS code H05 hazardous waste NPL location

The hazardous waste clean up activities are currently under the direction of the Georgia Department of Natural Resources, Hazardous Waste Management Branch. For more information contact the Department of Natural Resources, Hazardous Waste Management Branch, 205 Butler Street, S.E., Floyd Towers East, Suite 1154, Atlanta, Georgia, 30334 (404) 656-7802.

PPS #41. PPS code B14 machine shop (historical, no longer present)

Historical information. The machine shop was in operation during the 1920's.

PPS #42. PPS code B23 knitting mill (historical, no longer present)

Historical information. The knitting mill was destroyed by a tornado in 1975.

PPS #43. PPS code B23 power generating plant (historical, no longer present)

Historical information. The power plant used to be in the same location currently occupied by McLean water treatment plant.

PPS #44. PPS code B13 dry cleaners (historical, no longer present)

Historical information. The dry cleaners used to be in the same location currently occupied by Splish Splash car wash.

PPS #45. PPS code B17 printers (historical, currently an unoccupied building))

Historical information. The printing company has moved from this location.

PPS #46. PPS code B23 cotton storage warehouse / rail transfer area (historical, no longer present)

Historical information. The cotton storage warehouse / rail transfer area was removed and the location is now a vacant lot. Remnants of the track are still evident.

PPS #47. PPS code B23 cotton seed oil mill (historical, no longer present)

Historical information. The cotton storage warehouse / rail transfer area was removed and the location is now a vacant lot.

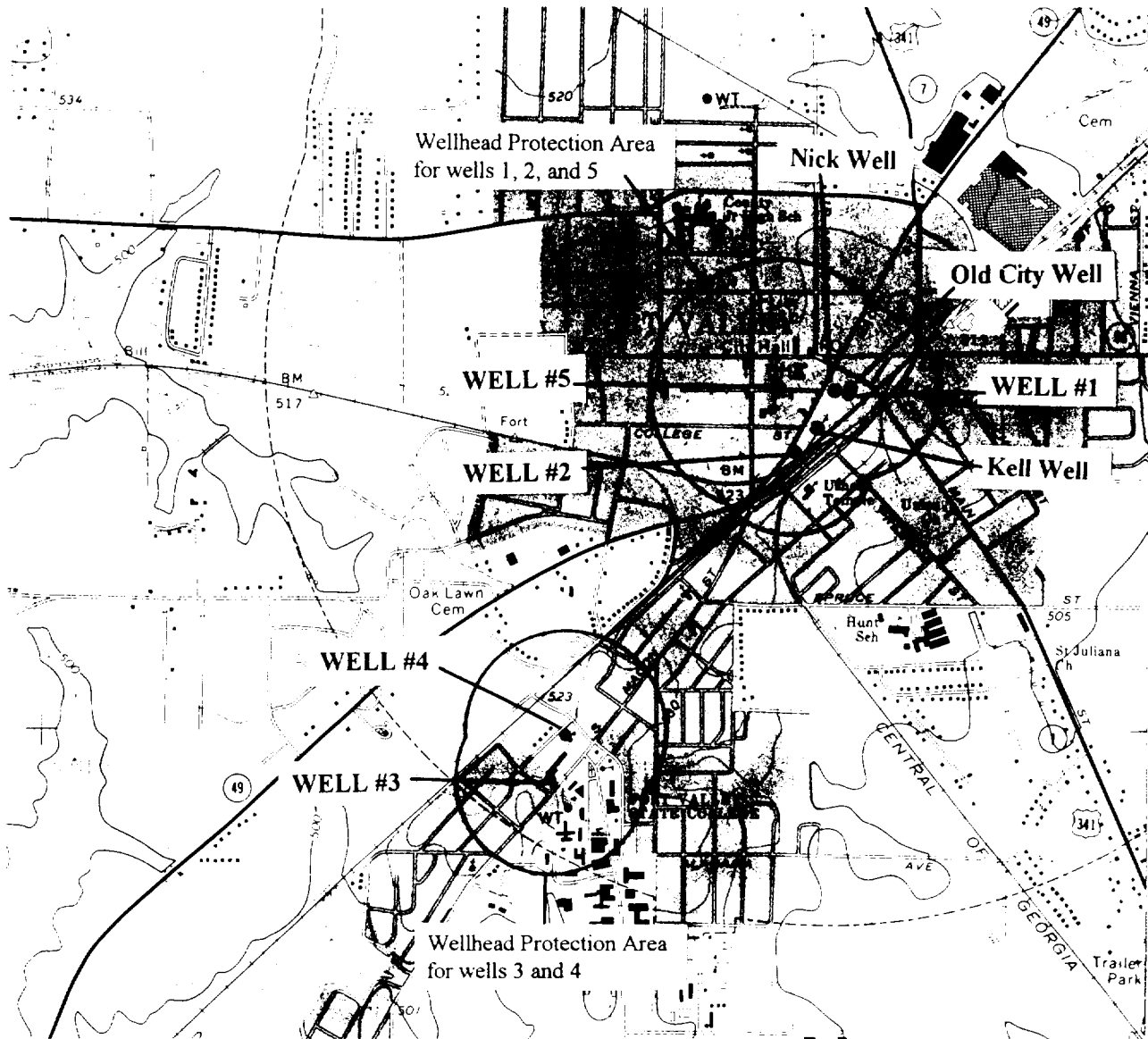
**Recommendations to Local Governments from the Georgia EPD continued**

PPS #48.	PPS code B13	dry cleaners (historical, no longer present)
Historical information.		
PPS #49.	PPS code B13	dry cleaners (historical, no longer present)
Historical information.		
PPS #50.	PPS code B13	dry cleaners (historical, no longer present)
Historical information.		
PPS #51.	PPS code B23	gasoline station (historical, no longer present)
Historical information.		
PPS #52.	PPS code B23	gasoline station (historical, no longer present)
Historical information.		

***Part 4: CONTINGENCY PLAN***

The City of Fort Valley has five connected wells. In the event one of the wells can no longer be used the other wells will supply the communities water needs until the well is operational or a new water source can be found.

# City of Fort Valley Wellhead Protection Areas



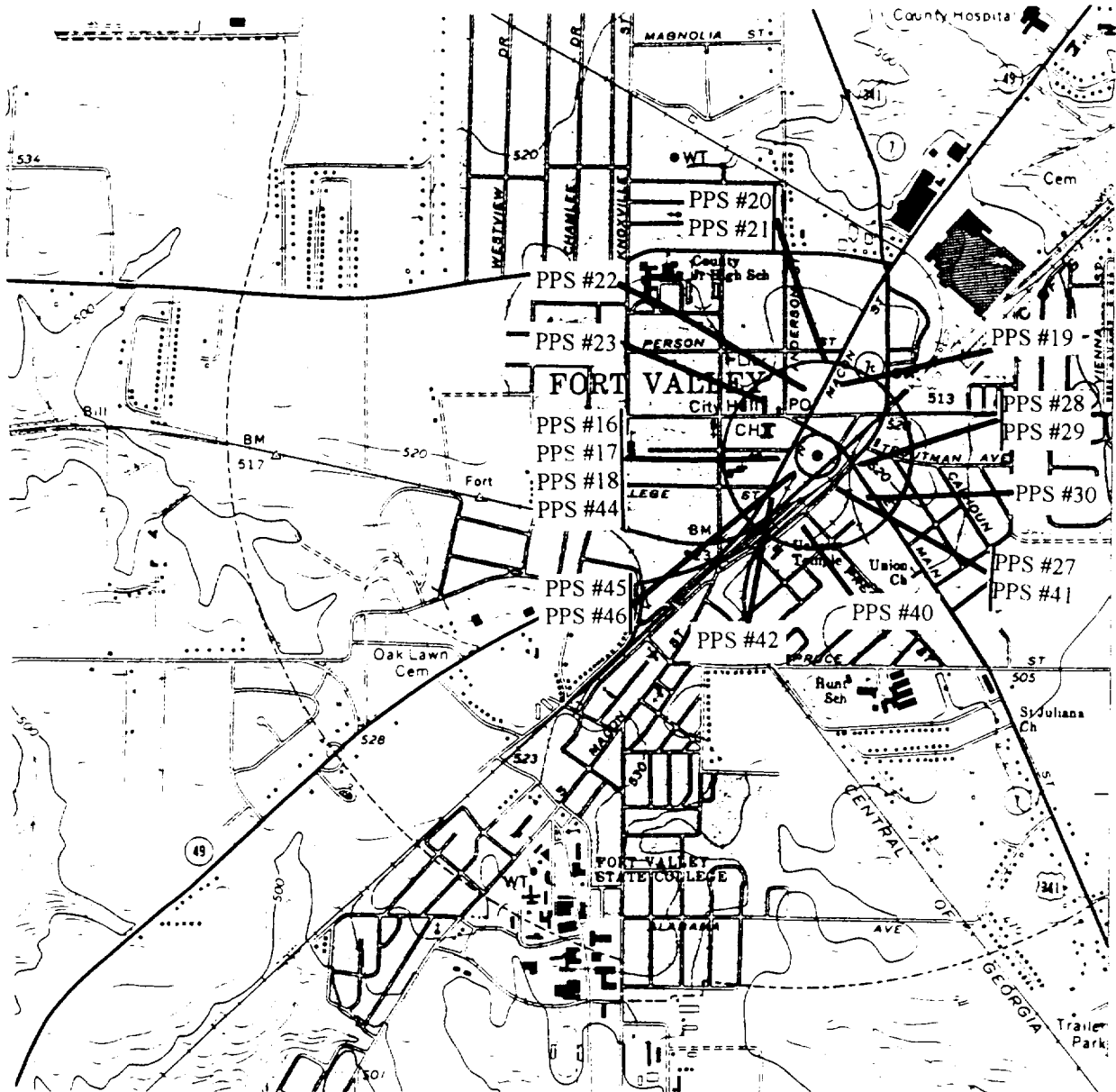
**Quadrangle:** Fort Valley West

	Well #1	Well #2	Well #3	Well #4	Well #5
<b>Longitude:</b>	83° 53' 10.3"W	83° 53' 18.5"W	83° 53' 50.6"W	83° 53' 49.7"W	83° 53' 19.5"W
<b>Latitude:</b>	32° 33' 09.5"N	32° 33' 02.3"N	32° 32' 24.3"N	32° 32' 29.5"N	32° 33' 10.6"N
<b>CZ:</b>	15 foot radius	15 foot radius	15 foot radius	15 foot radius	15 foot radius
<b>IMZ:</b>	250 foot radius	250 foot radius	250 foot radius	250 foot radius	250 foot radius
<b>Omz:</b>	1055 foot radius	985 foot radius	1100 foot radius	1180 foot radius	1490 foot radius

	Kell Well	Nick Well	Old City Well
<b>Longitude:</b>	83° 53' 15.0"W	83° 53' 12.3"W	83° 53' 09.9"W
<b>Latitude:</b>	32° 33' 05.5"N	32° 33' 09.1"N	32° 33' 09.6"N
<b>Status:</b>	abandoned	abandoned	abandoned

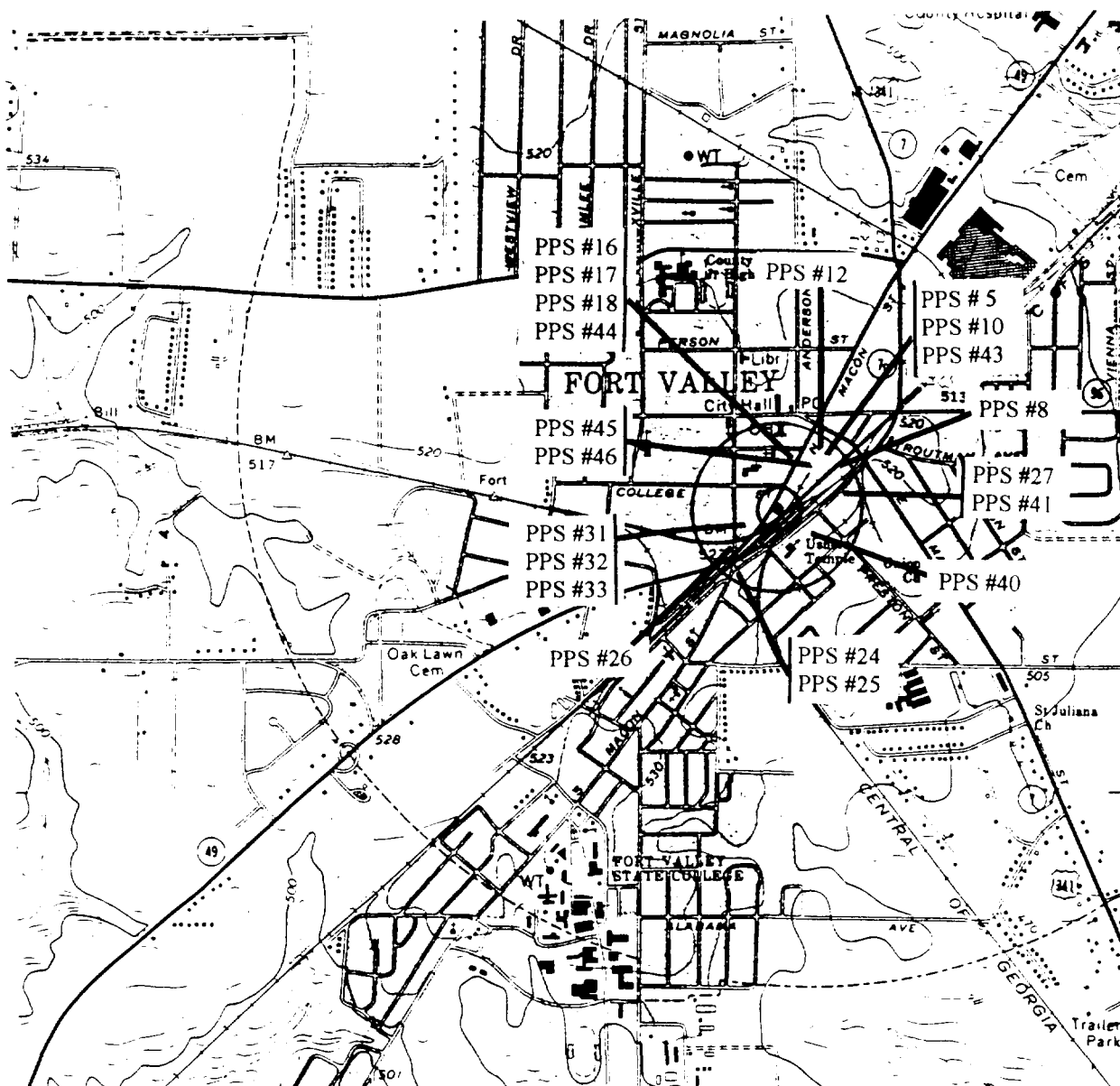
City of Fort Valley  
Well #1  
Wellhead Protection Area



<i>Quadrangle:</i>	Fort Valley West
<i>Longitude:</i>	83° 53' 10.3"W
<i>Latitude:</i>	32° 33' 09.5"N
<i>Control Zone:</i>	15 foot radius
<i>Inner- Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1055 foot radius

Potential Pollution Sources (PPS) of the IMZ are not shown on this map  
 Potential Pollution Sources (PPS) not shown on this map are listed on pages 11 and 12

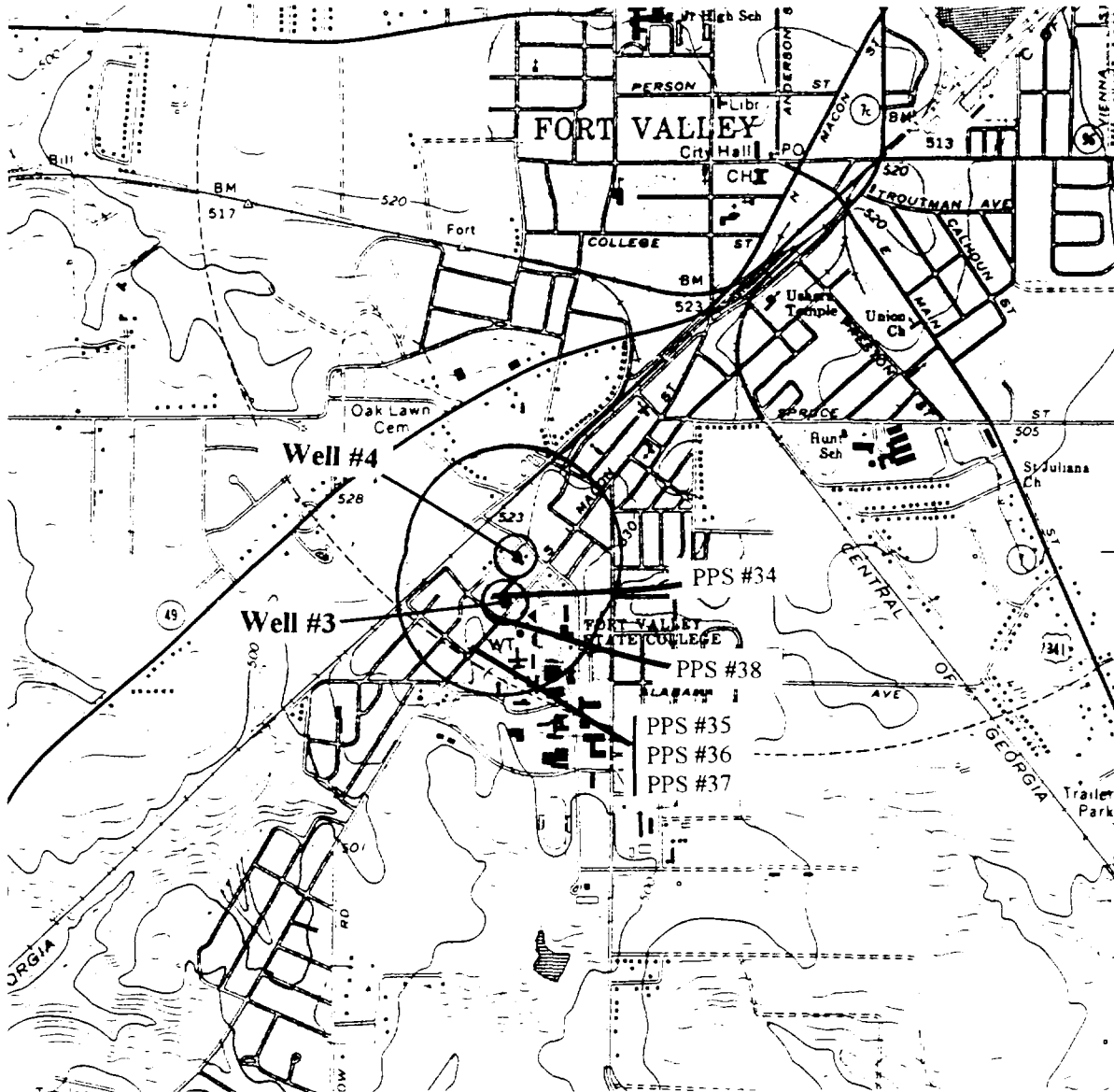
City of Fort Valley  
Well #2  
Wellhead Protection Area



<i>Quadrangle:</i>	Fort Valley West
<i>Longitude:</i>	83° 53' 18.5"W
<i>Latitude:</i>	32° 33' 02.3"N
<i>Control Zone:</i>	15 foot radius
<i>Inner- Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	985 foot radius

Potential Pollution Sources (PPS) of the IMZ are not shown on this map  
 Potential Pollution Sources (PPS) not shown on this map are listed on page 12 and 13

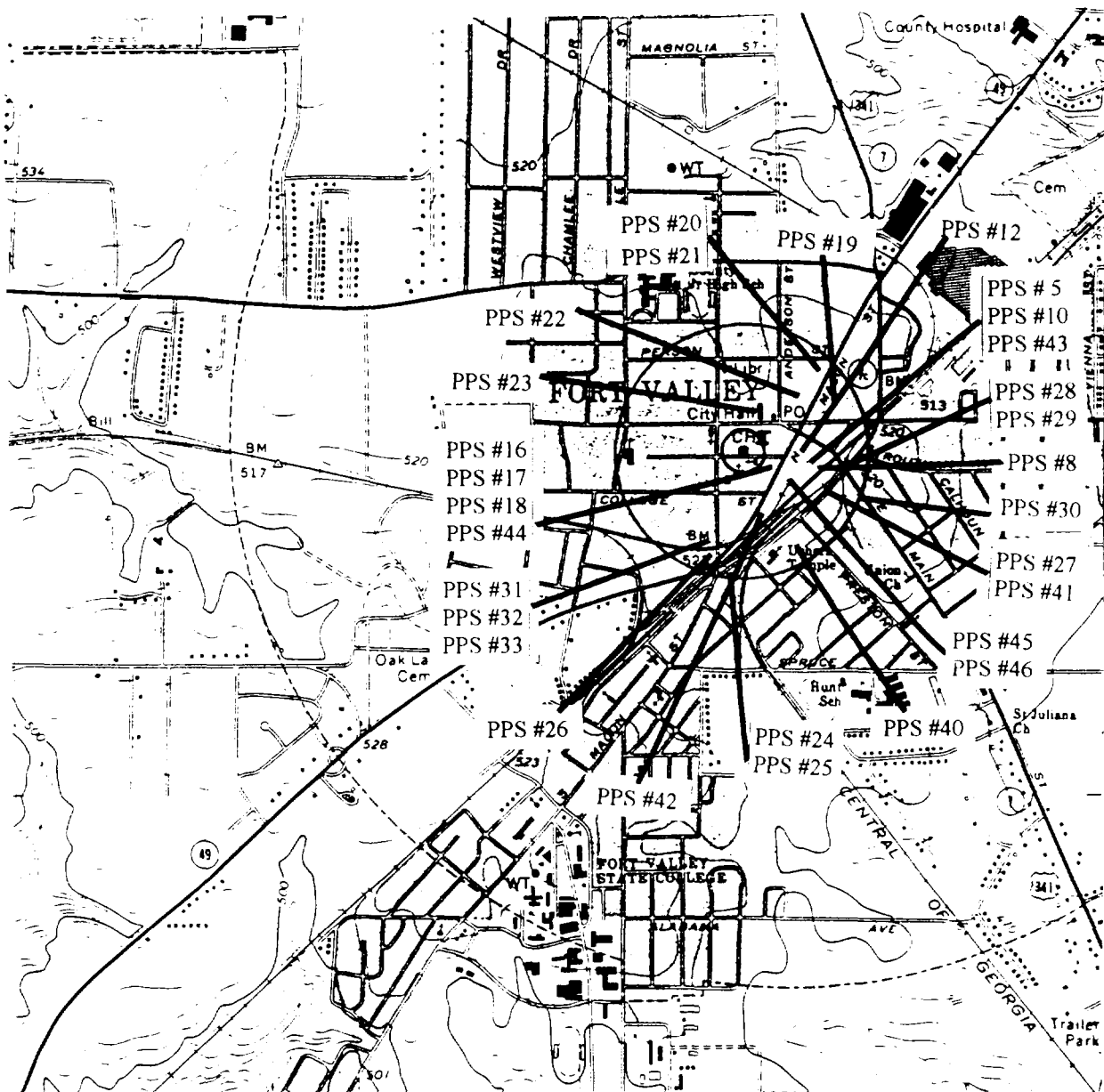
City of Fort Valley  
Wells #3 and #4  
Wellhead Protection Area



	<u>Well #3</u>	<u>Well #4</u>
<i>Quadrangle:</i>	Fort Valley West	Fort Valley West
<i>Longitude:</i>	83° 53' 50.6"W	83° 53' 49.7"W
<i>Latitude:</i>	32° 32' 24.3"N	32° 32' 29.5"N
<i>Control Zone:</i>	15 foot radius	15 foot radius
<i>Inner-Management Zone:</i>	250 foot radius	250 foot radius
<i>Outer-Management Zone:</i>	1100 foot radius	1180 foot radius

Potential Pollution Sources (PPS) not shown on this map are listed on pages 14 and 15

City of Fort Valley  
Well #5  
Wellhead Protection Area



<i>Quadrangle:</i>	Fort Valley West
<i>Longitude:</i>	83° 53' 19.5"W
<i>Latitude:</i>	32° 33' 10.6"N
<i>Control Zone:</i>	15 foot radius
<i>Inner- Management Zone:</i>	250 foot radius
<i>Outer-Management Zone:</i>	1490 foot

Potential Pollution Sources (PPS) of the IMZ are not shown on this map  
 Potential Pollution Sources (PPS) not shown on this map are listed on pages 16 and 17

## Radius Calculations for identifying the Outer-Management Zone

### VOLUMETRIC FLOW EQUATION

$$R = \sqrt{\frac{QT}{\pi n H}}$$

R = WHPA RADIUS

Q = PUMPING RATE OF WELL

n = AQUIFER POROSITY

H = OPEN INTERVAL (NO GROUT) OR  
LENGTH OF WELL SCREEN

T = TRAVEL TIME TO WELL

#### Well #1

Q = 1000 gpm  
n = 0.25  
H = 402 feet  
T = 5 years  
R = 1,055 feet

#### Well #2

Q = 1000 gpm  
n = 0.25  
H = 461 feet  
T = 5 years  
R = 985 feet

#### Well #3

Q = 1000 gpm  
n = 0.25  
H = 372 feet  
T = 5 years  
R = 1,100 feet

#### Well #4

Q = 1350 gpm  
n = 0.25  
H = 433 feet  
T = 5 years  
R = 1,180 feet

#### Well #5

Q = 1500 gpm  
n = 0.25  
H = 303 feet  
T = 5 years  
R = 1,490 feet

## APPENDIX A

### INVENTORY OF POTENTIAL POLLUTION SOURCES

---

#### AGRICULTURE

A01 Agricultural Fields  
A02 Agriculture Waste Impoundments  
A03 Animal Burials  
A04 Animal Feed Lots  
A05 Commercial Animal Enclosures  
A06 Fertilizer/Pesticide Storage  
A07 Grain Storage Bins  
A08 Irrigation Wells  
A09 Pesticide Mixing Areas  
A10 Other

#### BUSINESS AND INDUSTRY

B01 Asphalt Plant  
B02 Auto Repair/Body Shop/Salvage Washes  
B03 Auto/Truck/Boat/Equipment Dealers  
B04 Business using Solvents/Paints  
B05 Car Wash  
B06 Chemical Production/Mixing/Storage  
B07 Deicing Applications  
B08 Electroplaters/Metal Finishers  
B09 Fleet Service Facility  
B10 Gasoline Station Service Bay  
B11 Golf Courses/Nurseries  
B12 Industrial Facilities  
B13 Laundromats/Dry Cleaners  
B14 Machine Shops  
B15 Photo Processors  
B16 Power Generating Facilities  
B17 Printers  
B18 Refineries  
B19 Refinishing  
B20 Salvage Operations  
B21 Stockpiles  
B22 Wood Chemical Treatment Facilities  
B23 Other

#### FUEL STORAGE

F01 Above Ground Storage Tanks  
F02 Fuel Storage Facility  
F03 Oil/Gas Pipeline  
F04 Underground Storage Tanks  
F05 Other

#### HAZARDOUS MATERIALS

H01 Facilities Handling Hazardous Waste  
H02 Hazardous Waste Disposal  
H03 Hazardous Waste Management Units  
H04 Radioactive Disposal and Storage  
H05 Other

#### INJECTION AND INFILTRATION

I01 Abandoned Wells  
I02 Domestic Wells  
I03 Drainage Canals  
I04 Holding Pond/Lagoon  
I05 Infiltration Galleries  
I06 Injection Wells  
I07 Neighboring Polluted Wells  
I08 Salt Water Intrusion/Upconing  
I09 Sinkholes Modified/Natural  
I10 Storm Water Runoff/Infiltration  
I11 Swamps/Wetlands/Flood plain  
I12 Urban Runoff  
I13 Other

#### KNOWN POLLUTION

P01 Accident Spill Locations  
P02 Hazardous Waste Sites  
P03 Other

#### LANDFILLS

L01 Construction Waste Landfills  
L02 Industrial Waste Landfills  
L03 Municipal Solid Waste Landfills  
L04 Others, Active or Abandoned

#### MINING AND CONSTRUCTION

M01 Borrow Pits  
M02 Construction Excavations  
M03 Detonation Sites  
M04 Mining Operations  
M05 Quarries/Underground Mines  
M06 Other

#### SEWAGE AND WATER TREATMENT

S01 Domestic Septic Systems  
S02 Lift Station  
S03 Non-Domestic Septic Systems  
S04 Sewage Treatment Plant  
S05 Sewer Lines  
S06 Treatment Lagoons/Ponds  
S07 Waste Water Treatment Basin  
S08 Water Treatment Facilities  
S09 Other

#### TRANSPORTATION

T01 Access and Secondary Roads  
T02 Airports  
T03 Major Highways and Railroads  
T04 Transportation Corridors  
T05 Other

#### WASTE DISPOSAL SITES

W01 Abandoned Disposal Site  
W02 Abandoned Drums  
W03 Cesspools  
W04 Drum Storage/Disposal/Recycling  
W05 Dumps  
W06 Garbage Transfer Stations  
W07 Land Application Systems  
W08 Open Pit Burning  
W09 Recycling Facilities  
W10 Sludge Application  
W11 Sludge Producing Facility  
W12 Waste Piles  
W13 Other

#### OTHER

O01 Atmospheric Pollution Percolation  
O02 Abandoned Cars/Vehicles  
O03 Cemeteries  
O04 Electrical Transformers  
O05 Military Base/Depot  
O06 Utility Corridors  
O07 Utility Poles  
O08 Vehicle Parking Areas  
O09 Other

## APPENDIX 5

# Georgia Department of Natural Resources

205 Butler Street, S.E., Suite 1162 Atlanta, Georgia 30334

Lonice C. Barrett, Commissioner

Environmental Protection Division

Harold F. Reheis, Director

404/656-2833 404/656-7802

November 4, 1997

## **TRIP REPORT (SI Reconnaissance)**

**SITE NAME & LOCATION:** Anthoine Machine Works

**TRIP BY:** Bob Pierce

**ACCOMPANIED BY:** Steve White  
Eddie Williams  
Thomas Williams

**DATE OF TRIP:** October 29, 1997

**OFFICIALS CONTACTED:** Mr. Steven W. Lindsey, President (912-825-5613)

**REFERENCE:** Site Investigation (SI) Site Reconnaissance & Sampling  
Trip

### **COMMENTS:**

Arrived at the site 2:20 PM and presented credentials. Anthoine Machine Works (the site) is located at the intersection of Railroad and Preston Streets in down town Fort Valley. The site is in an industrial district. It is bounded to the north by the Central of Georgia Railroad, the south by Woolfolk Chemical Works, the east by an open field, and the west by industrial buildings. The site is active and is surrounded by a fence with three locking gates. The gate on Preston Street was observed with observed always to be locked. The two gates on Railroad Street are open during business hours but are kept locked at night.

After checking in with Mr. Lindsey, we proceeded to take soil core samples with a Model 5400 GeoProbe soil boring machine mounted in the bed of a pickup truck. Only soil samples were taken because the presence of ground water containing Perchloroethelyene (Perc) had been established in EPA's on-going Superfund investigation of the Woolfolk Chemical Works site which is located at the southern boundary of the machine works. If soil contamination were to be found at depth immediately below the machine works, then

Trip Report  
Anthoine Machine Works  
November 4, 1997

it may be possible to attribute at least a portion of the Perc found in Fort Valley City wells 1 and 2 to Anthoine Machine Works.

#### Soil Sample Descriptions

Sample No.	Sample Interval (Feet BLS)	Description	Comments
1	12 -14	Red clay, some sand	No PID Hits*
2	10 -12	Plastic red clay	No PID Hits*
3	12 - 16	Plastic red clay (moist)	No PID Hits*
4	5 - 6	Plastic red clay (moist)	No PID Hits*
*PID was run continuously during entire coring operation and did not register above background.			

#### RECOMMENDATIONS & FOLLOW UP REQUIRED:

If the laboratory results show the presence of Perc, then more investigation will be required.

**PHOTOGRAPHS:** None

**SAMPLES:** Four

**ATTACHMENTS:** Sample location map

File: Anthoine/Fort Valley SI

R:\BOBP\ANTHOINE.SI\REC1097.TRP

## APPENDIX 6

# SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER

FA0001020874

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE <div style="text-align: center; font-size: 1.1em;">ANTHOINE MACHINE WORKS</div>			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER <div style="text-align: center; font-size: 1.1em;">311 Railroad STREET</div>			
CITY <div style="text-align: center; font-size: 1.1em;">FORT VALLEY</div>	STATE <div style="text-align: center; font-size: 1.1em;">GA</div>	ZIP CODE <div style="text-align: center; font-size: 1.1em;">31030</div>	TELEPHONE <div style="text-align: center; font-size: 1.1em;">(912) 825-5617</div>
COORDINATES: LATITUDE and LONGITUDE <div style="text-align: center; font-size: 1.1em;">32°33'04.8"N 83°53'09.3" W</div>		TOWNSHIP, RANGE, AND SECTION	

OWNER/OPERATOR IDENTIFICATION					
OWNER <div style="text-align: center; font-size: 1.1em;">STEVEN W. LINDSEY</div>			OPERATOR		
OWNER ADDRESS			OPERATOR ADDRESS		
CITY <div style="text-align: center; font-size: 1.1em;">SAME AS ABOVE</div>			CITY		
STATE <div style="text-align: center; font-size: 1.1em;">GA</div>	ZIP CODE	TELEPHONE ( )	STATE	ZIP CODE	TELEPHONE ( )

SITE EVALUATION		
AGENCY/ORGANIZATION <div style="text-align: center; font-size: 1.1em;">Georgia DNR-EPD</div>		
INVESTIGATOR <div style="text-align: center; font-size: 1.1em;">Robert Pierce</div>		
CONTACT <div style="text-align: center; font-size: 1.1em;">Steve White</div>		
ADDRESS <div style="text-align: center; font-size: 1.1em;">205 BUTLER ST, SW RM 1154 E.</div>		
CITY <div style="text-align: center; font-size: 1.1em;">ATLANTA</div>	STATE <div style="text-align: center; font-size: 1.1em;">GA</div>	ZIP CODE <div style="text-align: center; font-size: 1.1em;">30334</div>
TELEPHONE (404) <div style="text-align: center; font-size: 1.1em;">656-2833</div>		

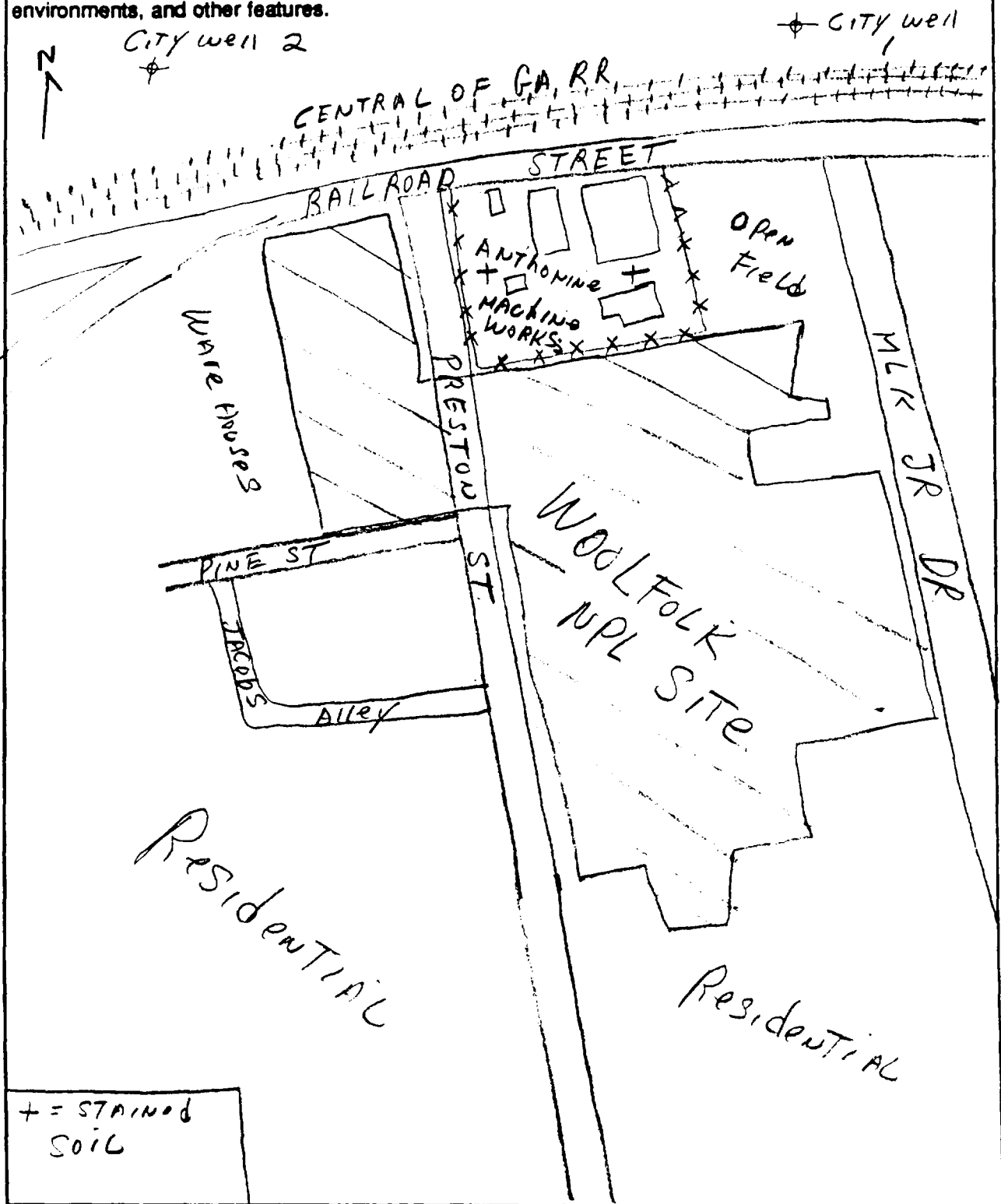
## GENERAL INFORMATION

### Site Description and Operational History:

Anthoine Machine Works has been at this site since 1975. The original facility shown in a 1930 Sanborn Fire Insurance Map was at the southeast corner of Preston and Railroad Streets approximately 200 feet southwest of its present location (Reference 11). Other facilities located at this site were a saw mill and a planing mill (Reference 12). These industries are no longer there and only the machine shop remains at the site. The site is active and machining operations and are the only activities conducted at the site. The site currently has 5 buildings with the largest being the machine shop, and the other 4 used for storage or work areas. Present waste operations are limited to parts washing at a small cleaning station with waste solvents removed by a hazardous waste transporter company. The present operator of the site is Mr. Steven W. Lindsey. The site measures approximately 235' x 250' and is fenced. The facility is a conditionally exempt small quantity generator (Reference 14).

## GENERAL INFORMATION (continued)

**Site Sketch:** Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.



## GENERAL INFORMATION

### Source Description

The Contaminant of concern is Perchloroethylene (Perc) which is a common solvent used in parts washing and dry cleaning. Perc has been found above the MCL in Fort Valley Municipal Wells 1 and 2. The most probable pathway for Perc to get from the Site to City wells 1 and 2 would be through soil infiltration as a result such possible occurrences as past spills and/or improper disposal practices. Any Perc migrating through the soil may find its way to the ground water by migration either through structural or lithologic inhomogeneities in the clay strata or through abandoned wells.

### Hazardous Waste Quantity (HWQ) Calculation

The source type would be contaminated soil. Since the site has been used as a machine shop for about 100 years, all the soil within the fenced boundary was considered potentially contaminated. The site measures 235 x 250 feet or 58,750 ft<sup>2</sup> contaminated soil. SI Table 1 states that a contaminated soil area of  $\leq 3.4$  million ft<sup>2</sup> has a HWQ of 10. However, since actual contamination targets exist, the HWQ default is 100.

**SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES**

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
<b>A</b> Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete  HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
<b>B</b> Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
<b>C</b> Volume	Landfill	≤ 6.75 million ft <sup>3</sup> ≤ 250,000 yd <sup>3</sup>	>6.75 million to 675 million ft <sup>3</sup> >250,000 to 25 million yd <sup>3</sup>
	Surface impoundment	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
	Drums	≤ 1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤ 50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤ 6.75 million ft <sup>3</sup> ≤ 250,000 yd <sup>3</sup>	>6.75 million to 675 million ft <sup>3</sup> >250,000 to 25 million yd <sup>3</sup>
	Pile	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
	Other	≤ 6,750 ft <sup>3</sup> ≤ 250 yd <sup>3</sup>	>6,750 to 675,000 ft <sup>3</sup> >250 to 25,000 yd <sup>3</sup>
<b>D</b> Area	Landfill	≤ 340,000 ft <sup>2</sup> ≤ 7.8 acres	>340,000 to 34 million ft <sup>2</sup> >7.8 to 780 acres
	Surface impoundment	≤ 1,300 ft <sup>2</sup> ≤ 0.029 acres	>1,300 to 130,000 ft <sup>2</sup> >0.029 to 2.9 acres
	Contaminated soil	≤ 3.4 million ft <sup>2</sup> ≤ 78 acres	> 3.4 million to 340 million ft <sup>2</sup> > 78 to 7,800 acres
	Pile	≤ 1,300 ft <sup>2</sup> ≤ 0.029 acres	>1,300 to 130,000 ft <sup>2</sup> >0.029 to 2.9 acres
	Land treatment	≤ 27,000 ft <sup>2</sup> ≤ 0.62 acres	>27,000 to 2.7 million ft <sup>2</sup> >0.62 to 62 acres

**SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET**

Site Name: ANTOINE MACHINE WORKS

## References

**Sources:** none

1. <u>CONTAMINATED SOIL</u>	4. _____	7. _____
2. _____	5. _____	8. _____
3. _____	6. _____	9. _____

[illegible]

○  
●  
—  
—

### **Ground Water Observed Release Substances Summary Table**

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

### **Ground Water Actual Contamination Targets Summary Table**

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

[illegible]

Well ID:	Level I	Level II	Population Served	References

0-13

Well ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

**Describe Ground Water Use within 4 Miles of the Site:**  
Describe generalized stratigraphy, aquifers, municipal and private wells

**Show Calculations of Ground Water Drinking Water Populations for each Aquifer:**  
Provide apportionment calculations for blended supply systems.  
County average number of persons per household: \_\_\_\_\_ Reference \_\_\_\_\_

## **GROUND WATER USE PATHWAY GROUND WATER USE DESCRIPTION**

**Describe Ground Water Use within 4 Miles of the Site:**

The stratigraphy of the area consists of inter bedded layers of sand, sandy clay, and kaolin clay which range in age from the Upper Cretaceous to the Lower Paleocene (References 2 and 3). The shallow most aquifer is the Clayton which is a sandy clay underlain by a fairly continuous layer of kaolin clay which serves as the lower confining unit for this aquifer. Ground water in the Clayton aquifer occurs under water table conditions and is about 20-30 feet below land surface. The main aquifer in the Fort Valley area is the Tuscaloosa which is about 250 feet below land surface. This aquifer is overlain by the Ripley/Blufftown - Eutaw semiconfining unit. The Tuscaloosa is the aquifer utilized by the public water supply wells in the area. The City of Fort Valley supplies water from the Tuscaloosa aquifer to about 8200 people utilizing 5 wells pumping to a single distribution system. City Wells 1, 2 and 5 are within 1/4 mile of the site. City wells 3 and 4 are within 2 miles of the site. The only other known public water supply within 4 miles of the site is Collins Mobile Home Park (one well) which is about 2.8 miles west of the site (Figure 3).

**Show Calculations of Ground Water Drinking Water Populations for Each Aquifer:**

The aquifer in the Fort Valley area most utilized as a source of drinking water is the Tuscaloosa aquifer. There are no known blended supply systems within the 4 mile target area.

## GROUND WATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.			
2. POTENTIAL TO RELEASE: Depth to aquifer: <u>20</u> feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.	340		
LR =		340	

### TARGETS

<p>Are any wells part of a blended system? Yes <u>    </u> No <u>✓</u>            If yes, attach a page to show apportionment calculations.</p>			
<p>3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5).</p> <p>Level I: <u>        </u> people x 10 = <u>        </u>            Level II: <u>        </u> people x 1 = <u>        </u>      Total =</p>	N/A		
<p>4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.</p>	142		
<p>5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.</p>	20		
<p>6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.</p>	20		
<p>7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Irrigation (5 acre minimum) of commercial food crops or commercial forage crops</li> <li>• Watering of commercial livestock</li> <li>• Ingredient in commercial food preparation</li> <li>• Supply for commercial aquaculture</li> <li>• Supply for a major or designated water recreation area, excluding drinking water use</li> </ul>	0		
Sum of Targets T=		182	

**SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS**

**SI Table 6a: Other Than Karst Aquifers**

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile	69	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	53	
$\frac{1}{4}$ to $\frac{1}{2}$ mile	114	18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	102	
$\frac{1}{2}$ to 1 mile	573	9	1	5	17	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	167	
> 1 to 2 miles	2310	5	0.7	3	10	30	94	294	939	2,939	9,385	29,384	93,845	293,842	294	
> 2 to 3 miles	3308	3	0.5	2	7	21	68	212	678	2,122	6,778	21,222	67,777	212,219	678	
> 3 to 4 miles	2977	2	0.3	1	4	13	42	131	417	1,306	4,171	13,060	41,709	130,596	131	
Nearest Well =		20													Sum =	1425

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**SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)**

**SI Table 6b: Karst Aquifers**

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455		
$> \frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
$> \frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 1$ to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 2$ to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
$> 3$ to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		

Nearest Well =

Sum =

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## GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply																						
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	100																								
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	0																								
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7) <table border="1" style="margin: 10px auto; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th style="text-align: left;">Product</th> <th style="text-align: center;">WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td style="text-align: center;">0</td></tr> <tr><td>&gt;0 to &lt;10</td><td style="text-align: center;">1</td></tr> <tr><td>10 to &lt;100</td><td style="text-align: center;">2</td></tr> <tr><td>100 to &lt;1,000</td><td style="text-align: center;">3</td></tr> <tr><td>1,000 to &lt; 10,000</td><td style="text-align: center;">6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td style="text-align: center;">10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td style="text-align: center;">18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td style="text-align: center;">32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td style="text-align: center;">58</td></tr> <tr><td>1E + 08 or greater</td><td style="text-align: center;">100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to < 10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	58	1E + 08 or greater	100			
Product	WC Score																								
0	0																								
>0 to <10	1																								
10 to <100	2																								
100 to <1,000	3																								
1,000 to < 10,000	6																								
10,000 to <1E + 05	10																								
1E + 05 to <1E + 06	18																								
1E + 06 to <1E + 07	32																								
1E + 07 to <1E + 08	58																								
1E + 08 or greater	100																								
WC =		0																							

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

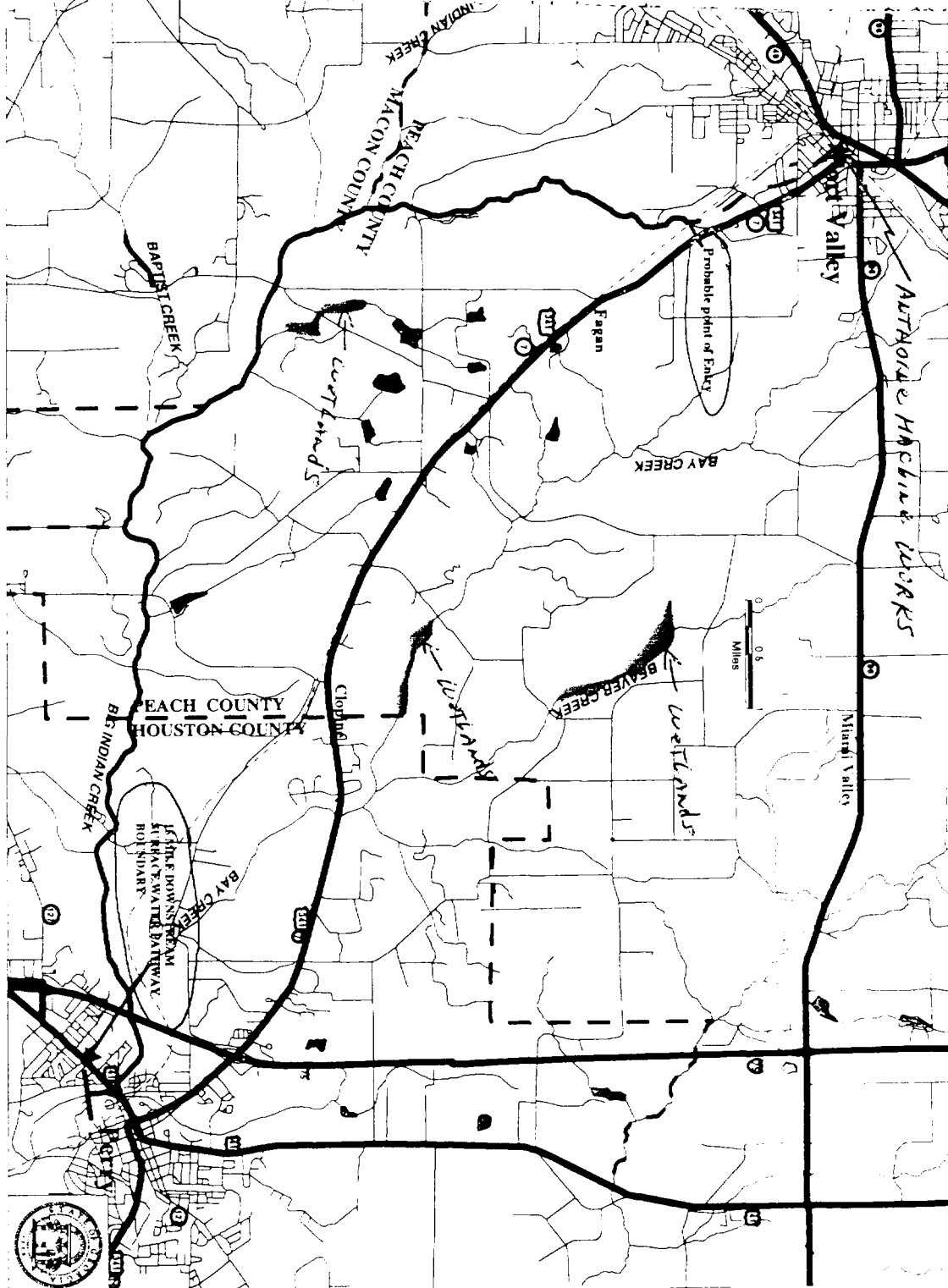
**GROUND WATER PATHWAY SCORE:**

$$\frac{LR \times T \times WC}{82,500}$$

0  
 (Maximum of 100)

# SURFACE WATER PATHWAY

Sketch of the Surface Water Migration Route:



[illegible]

Intake ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Intake ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population Served \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

# SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

## LIKELIHOOD OF RELEASE- OVERLAND/FLOOD MIGRATION

	Score	Data Type	Refs												
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			6												
2. POTENTIAL TO RELEASE: Distance to surface water: _____(feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency. <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td>Distance to surface water &lt;2500 feet</td> <td style="text-align: center;">500</td> </tr> <tr> <td>Distance to surface water &gt;2500 feet, and:</td> <td></td> </tr> <tr> <td>    Site in annual or 10-yr floodplain</td> <td style="text-align: center;">500</td> </tr> <tr> <td>    Site in 100-yr floodplain</td> <td style="text-align: center;">400</td> </tr> <tr> <td>    Site in 500-yr floodplain</td> <td style="text-align: center;">300</td> </tr> <tr> <td>    Site outside 500-yr floodplain</td> <td style="text-align: center;">100</td> </tr> </table> Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2	Distance to surface water <2500 feet	500	Distance to surface water >2500 feet, and:		Site in annual or 10-yr floodplain	500	Site in 100-yr floodplain	400	Site in 500-yr floodplain	300	Site outside 500-yr floodplain	100			
Distance to surface water <2500 feet	500														
Distance to surface water >2500 feet, and:															
Site in annual or 10-yr floodplain	500														
Site in 100-yr floodplain	400														
Site in 500-yr floodplain	300														
Site outside 500-yr floodplain	100														

LR = 100

## LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION

	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.  NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:  1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0. 2) No aquifer discontinuity is established between the source and the above portion of the surface water body. 3) The top of the uppermost aquifer is at or above the bottom of the surface water. Elevation of top of uppermost aquifer _____ Elevation of bottom of surface water body _____	N/A		
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.			

LR =

**SURFACE WATER PATHWAY  
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET  
(CONTINUED)**

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs																
<p>Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: left;">Intake Name</th> <th style="text-align: left;">Water Body Type</th> <th style="text-align: left;">Flow</th> <th style="text-align: left;">People Served</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Are any intakes part of a blended system? Yes _____ No _____ If yes, attach a page to show apportionment calculations.</p> <p>3. <b>ACTUAL CONTAMINATION TARGETS:</b> If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8).</p> <p>_____</p> <p>Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ <span style="float: right;">Total = _____</span></p>	Intake Name	Water Body Type	Flow	People Served													0		
Intake Name	Water Body Type	Flow	People Served																
<p>4. <b>POTENTIAL CONTAMINATION TARGETS:</b> Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.</p>	0																		
<p>5. <b>NEAREST INTAKE:</b> Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.</p>	0																		
<p>6. <b>RESOURCES:</b> Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Irrigation (5 acre minimum) of commercial food crops or commercial forage crops</li> <li>• Watering of commercial livestock</li> <li>• Ingredient in commercial food preparation</li> <li>• Major or designated water recreation area, excluding drinking water use</li> </ul>	0																		
<b>SUM OF TARGETS T=</b>	0																		

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY *L/A*

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	16	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river ( $\geq 10$ cfs)		10	0	2	9	26	82	261	817	2,607	8,163	
Nearest Intake =			Sum =									

References \_\_\_\_\_

Replaced on HRS table 4-14

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## **SURFACE WATER PATHWAY**

### **Nonuse Food Chain Actual Contamination Targets Summary Table**

On SE Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SE Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDA/NIH benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

### **Sensitive Environment Actual Contamination Targets Summary Table**

On SE Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For ARO/CAALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

N/A

**SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED**

(As shown below)

Fishery ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ References \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration	% of Cancer Risk Concentration	RfD	% of RfD
Highest Percent					Sum of Percents		Sum of Percents	

**SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED**

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

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Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

N/A

Environment ID: \_\_\_\_\_ Sample Type \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Environment Value \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
Highest Percent					

# **SURFACE WATER PATHWAY (continued) HUMAN FOOD CHAIN THREAT WORKSHEET**

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs										
<p>Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.</p>													
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Fishery Name _____ Water Body _____ Flow _____ cfs   Species _____ Production _____ lbs/yr  Species _____ Production _____ lbs/yr </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Fishery Name _____ Water Body _____ Flow _____ cfs   Species _____ Production _____ lbs/yr  Species _____ Production _____ lbs/yr </div> <div style="border: 1px solid black; padding: 5px;"> Fishery Name _____ Water Body _____ Flow _____ cfs   Species _____ Production _____ lbs/yr  Species _____ Production _____ lbs/yr </div>													
<b>FOOD CHAIN INDIVIDUAL</b>													
<p>7. <b>ACTUAL CONTAMINATION FISHERIES:</b> <span style="float: right; margin-right: 50px;">N/A</span></p> <p>If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.</p>													
<p>8. <b>POTENTIAL CONTAMINATION FISHERIES:</b></p> <p>If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.</p> <p>If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">Lowest Flow</th> <th style="text-align: center;">FCI Value</th> </tr> </thead> <tbody> <tr> <td>&lt;10 cfs</td> <td style="text-align: center;">20</td> </tr> <tr> <td>10 to 100 cfs</td> <td style="text-align: center;">2</td> </tr> <tr> <td>&gt;100 cfs, coastal tidal waters, oceans, or Great Lakes</td> <td style="text-align: center;">0</td> </tr> <tr> <td>3-mile mixing zone in quiet flowing river</td> <td style="text-align: center;">10</td> </tr> </tbody> </table> <p align="right" style="margin-top: 10px;">FCI Value =</p>				Lowest Flow	FCI Value	<10 cfs	20	10 to 100 cfs	2	>100 cfs, coastal tidal waters, oceans, or Great Lakes	0	3-mile mixing zone in quiet flowing river	10
Lowest Flow	FCI Value												
<10 cfs	20												
10 to 100 cfs	2												
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0												
3-mile mixing zone in quiet flowing river	10												
<b>SUM OF TARGETS T =</b>													

# SURFACE WATER PATHWAY (continued) ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both bridge lengths. For a sensitive environment that is more than one type, assign a value for each type.

## ENVIRONMENTAL THREAT TARGETS

Score Type Pests

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance that, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
		cls
		cls
		cls
		cls
		cls

## 9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from this site, record the information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x	-
		x	-
		x	-
		x	-
		x	-
		x	-
		x	-
		x	-

Sum =

## 10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Flow	Distance Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	
cls		x	x 0.1 =	

Sum =


No Sensitive Environments Present in site  
PATRICIA

**SI TABLE 12 (HRS Table 4-13):  
SURFACE WATER DILUTION WEIGHTS**

*N/A*

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Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	<del>0.001</del> 0.0001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	<del>0.001</del> 0.0001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	<del>0.0001</del> 0.00001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

**SI TABLE 13 (HRS TABLE 4-23):  
SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES**

<b>SENSITIVE ENVIRONMENT</b>	<b>ASSIGNED VALUE</b>
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands                      See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	0

**SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER  
WETLANDS FRONTAGE VALUES**

<b>Total Length of Wetlands</b>	<b>Assigned Value</b>
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

# **SURFACE WATER PATHWAY (concluded)** **WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY**

## **WASTE CHARACTERISTICS**

Score

<p>14. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.</p>				0
<p>15. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.</p>				
	Substance Value	HWQ	Product	WC Score (from Table) (Maximum of 100)
Drinking Water Threat Toxicity/Persistence	x	-		
Food Chain Threat Toxicity/Persistence Bioaccumulation	x	-		
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	x	-		

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to <10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

max  
100  
  
1000  
  
1000

## **SURFACE WATER PATHWAY THREAT SCORES**

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82,500}$
Drinking Water	0	0	max 1000	(maximum of 100)
Human Food Chain	0	0	max 1000	(maximum of 100)
Environmental	0	0	max 1000	(maximum of 60)

**SURFACE WATER PATHWAY SCORE**  
 (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(maximum of 100)

0

## SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

### Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

Observed Contamination

No

**SI TABLE 18: SOIL EXPOSURE RESIDENT POPULATION TARGETS**

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RID	% of RID	Toxicity Value	Reference
N/A			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RID	% of RID	Toxicity Value	Reference
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: \_\_\_\_\_ Level I \_\_\_\_\_ Level II \_\_\_\_\_ Population \_\_\_\_\_

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RID	% of RID	Toxicity Value	Reference
			Highest Percent		Sum of Percents		Sum of Percents	

# SOIL EXPOSURE PATHWAY WORKSHEET RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.	0		8
LE =	0		

## TARGETS

<p>2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care <sup>or day care</sup> within 200 feet of areas of observed contamination (HRS section 5.1.3).</p> <p>Level I: _____ people x 10 = _____</p> <p>Level II: _____ people x 1 = _____</p> <p>Sum = _____</p>													
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (i.e., no Level I or Level II targets), assign 0 (HRS Section 5.1.3).													
<p>4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities <sup>at the site</sup> with areas of observed contamination associated with the site. <sup>and within 200 ft</sup></p> <table border="1"> <thead> <tr> <th>Number of Workers</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>1 to 100</td> <td>5</td> </tr> <tr> <td>101 to 1,000</td> <td>10</td> </tr> <tr> <td>&gt;1,000</td> <td>15</td> </tr> </tbody> </table>	Number of Workers	Score	0	0	1 to 100	5	101 to 1,000	10	>1,000	15			
Number of Workers	Score												
0	0												
1 to 100	5												
101 to 1,000	10												
>1,000	15												
<p>5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination.</p> <table border="1"> <thead> <tr> <th>Terrestrial Sensitive Environment Type</th> <th>Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> <p>Sum = _____</p>	Terrestrial Sensitive Environment Type	Value											
Terrestrial Sensitive Environment Type	Value												
<p>6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Commercial agriculture</li> <li>• Commercial silviculture</li> <li>• Commercial livestock production or commercial livestock grazing</li> </ul>													

Total of Targets T=

**SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY  
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES**

<b>TERRESTRIAL SENSITIVE ENVIRONMENT</b>	<b>ASSIGNED VALUE</b>
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

# **SOIL EXPOSURE PATHWAY WORKSHEET** **NEARBY POPULATION THREAT**

*N/A*

## **LIKELIHOOD OF EXPOSURE**

		Score	Date Type	Ref.
7. <b>Accessibility/Accessibility</b> (from SI Table 17 or HRS Table 5-6)	Value _____			
<b>Area of Contamination</b> (from SI Table 18 or HRS Table 5-7)	Value _____			
<b>Likelihood of Exposure</b> (from SI Table 19 or HRS Table 5-8)				

LE =

## **TARGETS**

	Score	Date Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.			
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (i.e., properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.			

T =

**SI TABLE 17 (HRS TABLE 5-6):  
ATTRACTIVENESS/ACCESSIBILITY VALUES**

<b>Area of Observed Contamination</b>	<b>Assigned Value</b>
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements—for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

**SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES**

<b>Total area of the areas of observed contamination (square feet)</b>	<b>Assigned Value</b>
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	100

N/A

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

C-40

**SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT**

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$		0	0.1	0.4	1.0	4	13	41	130	408	1,303	4,081	13,034	
Greater than $\frac{1}{4}$ to $\frac{1}{2}$		0	0.05	0.2	0.7	2	7	20	65	204	652	2,041	6,517	
Greater than $\frac{1}{2}$ to 1		0	0.02	0.1	0.3	1	3	10	33	102	326	1,020	3,258	
Reference(s) _____														Sum =

## SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

### WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure																							
11. Assign the highest toxicity value from SI Table <u>15 or 3</u>																							
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px 10px;">Product</th> <th style="padding: 2px 10px;">WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>&gt;0 to &lt;10</td><td>1</td></tr> <tr><td>10 to &lt;100</td><td>2</td></tr> <tr><td>100 to &lt;1,000</td><td>3</td></tr> <tr><td>1,000 to &lt; 10,000</td><td>6</td></tr> <tr><td>10,000 to &lt;1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to &lt;1E + 06</td><td>18</td></tr> <tr><td>1E + 06 to &lt;1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to &lt;1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to < 10,000	6	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	WC =
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to < 10,000	6																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

### RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;  
Targets = Sum of Questions 2, 3, 4, 5, 6)

LE X T X WC  
82,500

### NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;  
Targets = Sum of Questions 8, 9)

LE X T X WC  
82,500

### SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

0

(Maximum of 100)

## **AIR PATHWAY**

### **Air Pathway Observed Substances Summary Table**

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.



## AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.			
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).			

LR =

C

### TARGETS

<p>3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air.</p> <p style="margin-left: 40px;">a) Level I: _____ people x 10 = _____</p> <p style="margin-left: 40px;">b) Level II: _____ people x 1 = _____      <b>Total =</b> _____</p>																					
<p>4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.</p>																					
<p>5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.</p>																					
<p>6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 50%;"><i>Sensitive Environment Type</i></td> <td style="width: 50%;"><i>Value</i></td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr> <td><i>Wetland Acreage</i></td> <td><i>Value</i></td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	<i>Sensitive Environment Type</i>	<i>Value</i>									<i>Wetland Acreage</i>	<i>Value</i>							N/A		
<i>Sensitive Environment Type</i>	<i>Value</i>																				
<i>Wetland Acreage</i>	<i>Value</i>																				
<p>7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.</p>																					
<p>8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies.</p> <ul style="list-style-type: none"> <li>• Commercial agriculture</li> <li>• Commercial silviculture</li> <li>• Major or designated recreation area</li> </ul>																					

T =

SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS *N/A*

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	
On a source		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	
0 to $\frac{1}{4}$ mile		*	1	4	13	41	131	408	1,304	4,081	13,034	40,812	130,340	408,114	
$> \frac{1}{4}$ to $\frac{1}{2}$ mile		2	0.2	0.9	3	9	28	88	282	882	2,815	8,815	28,153	88,153	
$> \frac{1}{2}$ to 1 mile		1	0.06	0.3	0.9	3	8	26	83	261	834	2,612	8,342	26,119	
> 1 to 2 miles		0	0.02	0.09	0.3	0.8	3	8	27	83	266	833	2,659	8,326	
> 2 to 3 miles		0	0.009	0.04	0.1	0.4	1	4	12	38	120	375	1,199	3,755	
> 3 to 4 miles		0	0.005	0.02	0.07	0.2	0.7	2	7	28	73	229	730	2,285	
Nearest Individual =			Sum =												

### References

\* Score = 20 if the Nearest Individual is within  $\frac{1}{8}$  mile of a source; score = 7 if the Nearest Individual is between  $\frac{1}{8}$  and  $\frac{1}{4}$  mile of a source.

N/A

**SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA**

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

**SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS**

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20)	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x	
		x	
		x	
1/4 to 1/2 mile	0.0054	x	
		x	
		x	
1/2 to 1 mile	0.0016	x	
		x	
		x	
1 to 2 miles	0.0005	x	
		x	
		x	
2 to 3 miles	0.00023	x	
		x	
		x	
3 to 4 miles	0.00014	x	
		x	
		x	
> 4 miles	0	x	
Total Environments Score =			

## AIR PATHWAY (concluded)

### WASTE CHARACTERISTICS

<p>9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.</p>																							
<p>10. Assign the highest air toxicity/mobility value from SI Table 21. <math>\frac{4}{3}</math></p>																							
<p>11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px 10px;">Product</th> <th style="padding: 2px 10px;">WC Score</th> </tr> </thead> <tbody> <tr><td style="padding: 2px 10px;">0</td><td style="padding: 2px 10px;">0</td></tr> <tr><td style="padding: 2px 10px;">&gt;0 to &lt;10</td><td style="padding: 2px 10px;">1</td></tr> <tr><td style="padding: 2px 10px;">10 to &lt;100</td><td style="padding: 2px 10px;">2</td></tr> <tr><td style="padding: 2px 10px;">100 to &lt;1,000</td><td style="padding: 2px 10px;">3</td></tr> <tr><td style="padding: 2px 10px;">1,000 to &lt;10,000</td><td style="padding: 2px 10px;">8</td></tr> <tr><td style="padding: 2px 10px;">10,000 to &lt;1E + 05</td><td style="padding: 2px 10px;">10</td></tr> <tr><td style="padding: 2px 10px;">1E + 05 to &lt;1E + 06</td><td style="padding: 2px 10px;">18</td></tr> <tr><td style="padding: 2px 10px;">1E + 06 to &lt;1E + 07</td><td style="padding: 2px 10px;">32</td></tr> <tr><td style="padding: 2px 10px;">1E + 07 to &lt;1E + 08</td><td style="padding: 2px 10px;">56</td></tr> <tr><td style="padding: 2px 10px;">1E + 08 or greater</td><td style="padding: 2px 10px;">100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to <10,000	8	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	<p style="font-size: 24px; margin: 0;">WC =</p>
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to <10,000	8																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

**AIR PATHWAY SCORE:**

$$\frac{LE \times T \times WC}{82,500}$$

<div style="font-size: 24px; margin: 0;">0</div> <div style="font-size: 10px; margin: 0;">(maximum of 100)</div>
--

SITE SCORE CALCULATION		S	S <sup>2</sup>
GROUND WATER PATHWAY SCORE (S <sub>GW</sub> )		0	
SURFACE WATER PATHWAY SCORE (S <sub>SW</sub> )		0	
SOIL EXPOSURE (S <sub>S</sub> )		0	
AIR PATHWAY SCORE (S <sub>A</sub> )		0	
SITE SCORE $\sqrt{\frac{S_{GW}^2 + S_{SW}^2 + S_S^2 + S_A^2}{4}}$			0

#### COMMENTS

The purpose of this SI was to determine if any of the Perchloroethylene found above the MCL in the City of Fort Valley's wells 1 and 2 could be attributed to the machine works site. The most probable pathway would have been the downward movement of contamination through the soil as a result of accidents, spills or improper disposal. The absence of any VOC contamination in the soil above the shallow water table beneath the site indicated that the Perc in the City wells cannot be attributed to the site.

Within 1/2 mile of the site there are at least 5 additional potential past or present sources for the Perc found in these city wells. These sources would be within the radius of influence of these 2 wells so that any Perc that reached the Tuscaloosa aquifer could potentially reach either of these wells.

This SI is part of a larger investigation to determine the source or sources of the Perc in the city wells. This investigation includes additional SIs as well as data from 5 shallow and 5 deep monitoring wells presently being constructed by the Geologic Survey Branch of the Georgia Environmental Protection Division.

## AIR PATHWAY (concluded)

### WASTE CHARACTERISTICS

<p>9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.</p>																							
<p>10. Assign the highest air toxicity/mobility value from SI Table 21. <math>\frac{1}{3}</math></p>																							
<p>11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px 10px;">Product</th> <th style="padding: 2px 10px;">WC Score</th> </tr> </thead> <tbody> <tr><td style="padding: 2px 10px;">0</td><td style="padding: 2px 10px;">0</td></tr> <tr><td style="padding: 2px 10px;">&gt;0 to &lt;10</td><td style="padding: 2px 10px;">1</td></tr> <tr><td style="padding: 2px 10px;">10 to &lt;100</td><td style="padding: 2px 10px;">2</td></tr> <tr><td style="padding: 2px 10px;">100 to &lt;1,000</td><td style="padding: 2px 10px;">3</td></tr> <tr><td style="padding: 2px 10px;">1,000 to &lt; 10,000</td><td style="padding: 2px 10px;">8</td></tr> <tr><td style="padding: 2px 10px;">10,000 to &lt;1E + 05</td><td style="padding: 2px 10px;">10</td></tr> <tr><td style="padding: 2px 10px;">1E + 05 to &lt;1E + 06</td><td style="padding: 2px 10px;">18</td></tr> <tr><td style="padding: 2px 10px;">1E + 06 to &lt;1E + 07</td><td style="padding: 2px 10px;">32</td></tr> <tr><td style="padding: 2px 10px;">1E + 07 to &lt;1E + 08</td><td style="padding: 2px 10px;">56</td></tr> <tr><td style="padding: 2px 10px;">1E + 08 or greater</td><td style="padding: 2px 10px;">100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to < 10,000	8	10,000 to <1E + 05	10	1E + 05 to <1E + 06	18	1E + 06 to <1E + 07	32	1E + 07 to <1E + 08	56	1E + 08 or greater	100	<p style="font-size: 24px; margin: 0;">WC =</p>
Product	WC Score																						
0	0																						
>0 to <10	1																						
10 to <100	2																						
100 to <1,000	3																						
1,000 to < 10,000	8																						
10,000 to <1E + 05	10																						
1E + 05 to <1E + 06	18																						
1E + 06 to <1E + 07	32																						
1E + 07 to <1E + 08	56																						
1E + 08 or greater	100																						

**AIR PATHWAY SCORE:**

$$\frac{LE \times T \times WC}{82,500}$$

<div style="font-size: 24px; margin: 0;">0</div> <div style="font-size: 10px; margin: 0;">(maximum of 100)</div>
--

SITE SCORE CALCULATION		S	S <sup>2</sup>
GROUND WATER PATHWAY SCORE (S <sub>GW</sub> )		0	
SURFACE WATER PATHWAY SCORE (S <sub>sw</sub> )		0	
SOIL EXPOSURE (S <sub>s</sub> )		0	
AIR PATHWAY SCORE (S <sub>A</sub> )		0	
SITE SCORE $\sqrt{\frac{S_{GW}^2 + S_{sw}^2 + S_s^2 + S_A^2}{4}}$			0

#### COMMENTS

The purpose of this SI was to determine if any of the Perchloroethylene found above the MCL in the City of Fort Valley's wells 1 and 2 could be attributed to the machine works site. The most probably pathway would have been the downward movement of contamination through the soil as a result of accidents, spills or improper disposal. The absence of any VOC contamination in the soil above the shallow water table beneath the site indicated that the Perc in the City wells cannot be attributed to the site.

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**DRAFT**

Site Investigation Sampling Plan


ANTHOINE MACHINE WORKS

GA0001020874

Fort Valley, Georgia

SEPTEMBER 30, 1997

Prepared by:



Robert Pierce, Geologist  
Georgia Environmental Protection Division  
Hazardous Waste Management Branch

Approved by:



David Yardumian  
Unit Coordinator  
Hazardous Waste Management Branch

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## 1.0 INTRODUCTION

Under Authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization of 1986 (SARA), and pursuant to grant commitments to the U. S. Environmental Protection Agency (USEPA) Region IV, the State of Georgia Environmental Protection Division (EPD) is conducting a site inspection (SI) at the Anthoine Machine Works site in Fort Valley, Peach County, Georgia. The purpose of the (SI) is to collect information at the Anthoine Machine Works Site sufficient to assess the threat posed to human health and the environment, and to determine the need for additional investigation under CERCLA/SARA or other authority. The scope of the SI includes review of available file information, sampling of waste and environmental media to test preliminary assessment (PA) hypotheses and document hazard ranking system (HRS) factor values and scores, and collecting non-sampling information.

## 2.0 SITE DESCRIPTION/LOCATION

The Anthonine Machine Works Site was identified on the Georgia Wellhead Protection Plan for the City of Fort Valley as a potential source of Tetrachloroethylene (PCE) in City of Fort Valley municipal wells 1 and 2. The plan was prepared by the Georgia Geologic Survey Branch (GSB) of the Georgia Environmental Protection Division and is dated 10/25/96. A separate GSB memo dated 12/11/96 specifically evaluates potential sources of PCE in these municipal wells, and lists the machine works as a potential PCE source. Anthonine Machine Works is located at 311 Railroad St., Fort Valley, Georgia 31030 (Latitude 32°33'04.8"N, Longitude 83°53'09.3"W). The site is in downtown Fort Valley at the intersection of Railroad and Preston Streets. The surrounding land use is industrial. The Central of Georgia Railroad tracks are just across Railroad St. to the NorthWest, and the former Woolfolk Chemical Works bounds the machine works' property to the southeast. The site property is bounded to the northeast by a vacant field, and to the southwest by Preston Street.

## 3.0 OPERATIONAL HISTORY & WASTE CHARACTERISTICS

Anthonine Machine Works has been in Fort Valley Since the late 1800's. The original facility is shown in a 1930 Sanborn Fire Insurance Map at the south east corner of Preston and Railroad Streets approximately 200 feet southwest of its present location. Currently, organic solvents are used to wash parts at a small cleaning station. Spent solvents are currently being removed and replaced by Safety Kleen, Inc.

## 4.0 QUALITY CONTROL PROCEDURES

In order to avoid cross contamination, dedicated scoops, dishes, and coring equipment will be used as much as possible.

## 5.0 INVESTIGATION-DERIVED WASTE PLAN

Since only soil will be sampled, all soil not collected as a sample will be placed back in the hole from which it was removed.

## 6.0 PROJECT MANAGEMENT

The project manager for the Anthoine Machine Works SI sampling will be Robert Pierce of the Georgia Environmental Protection Division's Hazardous Waste Management Branch. The project manager will also serve as the site safety officer, and will collect and manage all samples. Two (2) soil samples are proposed for this site.

## 7.0 FIELD EQUIPMENT/HEALTH AND SAFETY

Safety monitoring equipment will consist of an Hnu PID which will be used at all sampling locations prior and during sampling. Protective clothing will be Level D, with latex gloves worn during sampling operations. Hard hats, ear protection, and steel toed shoes will be worn at all times around the direct push soil probe.

## 8.0 PROJECT SCHEDULE

The samples will be collected on October 29 1997, and will be taken to the Georgia Environmental Protection Laboratory either late the same day or on the following day. The laboratory turn around time is uncertain but should be about 4 weeks.

## 9.0 COLLECTION OF NON-SAMPLING DATA

Only immediately apparent visual data will be collected.

## 10.0 SAMPLING ACTIVITIES

This site is located in the vicinity of several potential sources of tetrachloroethylene (PCE), and City Wells 1 and 2. These two city wells utilize the Tuscaloosa aquifer and have shown PCE contamination above the MCL. An existing Tuscaloosa monitoring well located on the Anthoine Machine Works Site has shown detectable amounts of PCE. Since we know that PCE ground water contamination exists at depth under the site, we are proposing two (2) soil samples be taken above the shallow water table which is probably 30 feet BLS. The samples will be analyzed for VOCs. If these samples show PCE contamination, it may be reasonable to attribute at least part of the municipal well contamination to downward migration of PCE from the facility. A sample location map is attached.

## **11.0 QUALITY ASSURANCE**

One duplicate soil sample will be collected. Sample containers preservatives, and holding times will conform to the USEPA Region IV SOP/QAM dated May 1996.

## **12.0 FIELD ACTIVITIES**

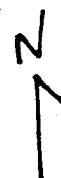
Samples will be collected on October 29, 1997 using direct push technology. There will be three people involved. Two people will operate the direct push soil probe, and the third person will serve as safety officer as well as collect and manage the samples. Chain of custody protocol will be observed.

# SITE MAP

ANTHONINE MACHINE WORKS

FORT VALLEY, GEORGIA

RAILROAD ST



MACHINE  
SHOP AREA

⊙  
SOIL  
SAMPLE

⊙ SOIL SAMPLE

50'

PRESTON STREET

